THE CHEMICAL SENSITIVITY OF LAKES TO ACIDIC DEPOSITION AND THE RISK TO FISH POPULATIONS

NORTH CENTRAL REGION

ONTARIO FISHERIES ACIDIFICATION REPORT SERIES NO. 86-03

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ONTARIO FISHERIES ACIDIFICATION REPORT SERIES

The Ontario Fisheries Acidification Report Series has been established by the Ontario Ministry of Natural Resources to document findings from studies conducted as part of the Fisheries Acidification Program. These reports are intended to contribute to our knowledge of acidification effects, but they should also be of general interest to fisheries managers.

These reports are basically progress reports. Much of this information will appear later in journal papers.

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1.0 Introduction

In 1982, the Ministry of Natural Resources in cooperation with the Ministry of Environment initiated the Extensive Survey as part of the Fisheries Acidic Precipitation Program. The major objective of this survey was to create a data set which could be used by biologists and resource managers to predict the chemical sensitivity of Ontario's lakes to acidic deposition and the risk to fish populations. Under this program two data sets were created:

1) the Sensitivity Data Set, which contains water chemistry data from about 4500 lakes in the province.

2) the Comprehensive Data Set, which contains data on fish species presence, lake water chemistry and lake morphometry from approximately 3000 lakes in the province.

In this report these two data bases are used to describe the acid sensitivity of lakes sampled in North Central Region and the risk to sport fish species. Reports are also available for the Northwestern, Algonquin, Northern and Northeastern regions.

2.0 Methods

Eighty-three percent of the lake water samples were collected using the tube composite sampling method (MOE 1979) which provides a reasonably accurate measure of whole lake water chemistry (MOE 1979) Samples were collected in the centre of the lake over the period from 1978 to 1984. Since 44.1% and 43.7% of the lakes were sampled in the summer and fall/winter, respectively, very few observations reflect worst case water chemical conditions that may occur in the spring due to snowmelt (Jeffries et al. 1980, Gunn and Keller 1984). pH and total inflection point alkalinity were measured using either field meters accurate to ± 0.01 pH units (MOE 1979) or at federal and provincial laboratories (MOE 1981 and Env. Can. 1979). All other parameters were analyzed at government laboratories. Fish species presence data originated from the Aquatic Habitat Inventory Program (Dodge et al. 1985).

2.1 DISTRIBUTION OF SAMPLES

2.1.1 By District

The numbe of lakes sampled in each MNR administrative district, included in the Sensitivity Data Set, is shown in Figure 1. The sample size is largest for the Algonquin (N=538; including lakes both inside and outside the Algonquin Park boundary) and Bracebridge (N=413) districts. The sample size is lowest for the Red Lake (N=11) and Ignace (N=13) districts.

Lake sampling is limited (N=532) in the North Central Region, with the highest percentage of lakes sampled in the Thunder Bay District. The remaining districts have similar coverage.

2.1.2 By Size Class

The size distribution of sampled lakes for all of Ontario and for the North Cental Region, is shown in Figure 2. Of the total number of lakes sampled in Ontario, the highest percentage (48.7%) are 10-99 ha in size. Approximately 33% are 100-999 ha, and 11.51% and 6.5% are in the size classes (1-9 ha) and (>=1000

ha), respectively. Although only 11.51% of the lakes sampled in all of Ontario are 1-9 ha in size, 68.7% of the total number of lakes in Ontario actually occur in this size class (Cox 1978). There is therefore an under-representation of small lakes in our current data set. As smaller lakes are more vulnerable to acidification than larger lakes (Minns 1981), this report may underestimate the total number of lakes at risk due to acidification stress.

Figure 3 shows the distribution of lakes sampled in each size class, by district, for the North Central Region. The largest percentage of lakes sampled in each district are 100-999 ha in size. In Terrace Bay District, no lakes were sampled in the 1-9 ha size class.

3.0 DEPOSITION

pH is measured on a scale from 1 to 14, with a pH of 7 being neutral. A pH of 1 indicates a very acidic solution while a solution of pH 13 is very alkaline. Clear, unpolluted rain is slightly acidic with a pH of approximately 5.6. The pH scale is logarithmic and therefore a pH of 4 is 10 times more acidic than a pH of 5, and 100 times more acidic than a pH of 6.

The weighted mean annual precipitation pH for each MNR region is illustrated in Figure 4. The pH isopleths were derived from deposition data reported by the Ministry of

Environment (1983), and adjusted southwards to conform to MNR district boundaries according to the method used by Minns (1981). For this report, districts lying south of the pH 4.3 isopleth receive a mean annual precipitation pH of less than 4.3. The Northeastern and Algonquin regions are located mainly in this deposition zone. The Northern, Northwestern and North Central regions are located north of the 4.3 isopleth and therefore receive a mean annual precipitation pH > 4.3. Deposition data from MOE sampling stations shows that North Central Region receives a mean annual precipitation pH of 4.5 (MOE 1983).

The Sudbury deposition zone historically received high loadings of sulphur dioxide due to local smelting operations (Dillon et al. 1980, Keller et al. 1980). In recent years, water quality in many lakes in this area has begun to improve. Increases in pH and total inflection point alkalinity (TIA) and decreases in sulphate (SO4) reflect reduced deposition from the Sudbury smelting industry (Keller and Pitblado 1984). This zone is approximately delineated by longitudes 80°00 and 81°30 and latitudes 46°00 and 47°30. The MNR districts of Gogama, North Bay, Sudbury, and Temagami are located largely in the Sudbury deposition zone.

4.0 CHEMICAL SENSITIVITY

The type of bedrock and surficial sediment in an area and the neutralizing capacity of surface waters determines its chemical sensitivity to acidic deposition (Shilts 1981). Highly sensitive areas are located on non-calcareous granite, granite gneiss, orthoquartzite or syenite (Shilts 1981). The Canadian Shield is largely underlain by this non-calcareous bedrock. Areas located on limestone based bedrock are less sensitive to acidic deposition (Shilts 1981).

Figure 5 shows that most of the area in the Northwestern, North Central, Northern, Northeastern and Algonquin regions is highly sensitive to acid precipitation.

The chemical influence of non-calcareous underlying bedrock may be masked by glacially transported calcareous till (overburden) (Shilts 1981). Some lakes northeast of Lake Superior (ie. in Northern Region) are a good example of this. These lakes, despite their underlying acid sensitive bedrock, are alkaline in nature because of the effects of overburden (Shilts 1981). The buffering capacity of the glacial cover depends on its thickness and composition (Shilts 1981). Hence, lakes in close proximity to one another may differ in their chemical sensitivities with respect to acidic deposition. Because of this, large scale mapping (eg. Figure 5) cannot be used to accurately classify lakes in small management zones

(Brousseau et al. 1985).

5.0 TOTAL INFLECTION POINT ALKALINITY

Alkalinity is a measure of the acid neutralizing capacity of water (MOE 1982).

The Ministry of the Environment (1982) has subjectively established the following five sensitivity categories based on total inflection point alkalinity and has described the associated biological effects:

Acidified Lakes (TIA <=0 ueq/l)

These lakes usually have pHs below 5.0. Fish populations will be severely stressed and many species may be lost. Clams, snails and many amphibians may be absent. Algal matts may accumulate in the inshore area.

Extremely Sensitive (0 <TIA <=40 ueq/l)

During snowmelt, pH levels may be severely depressed and aluminum concentrations increased in nearshore areas, creating potentially toxic conditions for aquatic biota.

Moderate Sensitivity (40 <TIA <=200 ueq/l)

During most of the year, the water quality of these lakes is not harmful to fish. In high acid deposition areas, however,

the pH may be depressed in the nearshore areas of certain lakes during snowmelt.

Low Sensitivity (200 <TIA <=500 ueq/l)

These lakes generally experience low pH only under very extreme snowmelt conditions.

Not Sensitive (TIA >500 ueq/l)

These lakes contain enough buffering capacity to neutralize current levels of acidic precipitation.

Based on the above MOE classifications, 43.07% of the lakes sampled in the North Central Region are classified as being not sensitive to acidification (Figure 6). Of the remaining lakes sampled, 28.08% have a low sensitivity to acidification, and 26.76% are moderately sensitive to acidic deposition. A small percentage (2.09%) of the sampled lakes in this region are extremely sensitive to acidification; water chemistry data are given for acidified and extremely sensitive lakes in Table 1. No lakes sampled in this region are acidified.

Figure 7 shows the distribution of sampled lakes in each alkalinity class by district. Geraldton District has the highest percentage (90.67%) of non sensitive lakes, while Atikokan District, the lowest (5.68%).

6.0 pH

As a lake acidifies, acid sensitive species such as walleye (Stizostedion vitreum), smallmouth bass (Micropterus dolomieu), and lake trout (Salvelinus namaycush) may be impaired at pHs below 5.5 (Beamish 1976, Harvey 1980, Beggs et al. 1986). More acid tolerant species such as the rock bass (Ambloplites rupestris), and yellow perch (Perca flavescens), may respond to lake acidification with increased growth and/or population size, at least temporarily (Harvey 1980). These species will eventually disappear if water quality deteriorates further (Harvey 1980).

To examine the data on lake pH and compare regions we have categorized pH into four arbitrarily selected classes: (less than 5.0, 5.0-5.49, 5.5-5.99, >=6.0). The majority of pH values used in this report were obtained from either summer, fall or winter composite samples and therefore do not represent minimum pH levels that can occur during episodic events, such as spring snowmelt (Jeffries et al. 1979).

Figure 6 shows that 99.43% of the lakes sampled in the North Central Region have a pH >=5.5. Conversely, fish populations in 0.57% of the lakes are currently at risk due to acidic deposition.

The pH class of sampled lakes by district is shown in Figure 8. A small percentage of the sampled lakes in the Atikokan (1.14%) and Thunder Bay (1.19%) districts have pH

values between 5.0 and 5.5, suggesting that sportfish populations in these lakes may be impaired by acidification.

7.0 SULPHATE

The sulphate (SO4) concentration found in water is related to the atmospheric deposition of sulphuric oxides, principle components of acid precipitation (MOI 1981). Sulphate may be deposited locally after undergoing chemical transformation, or it may be transported long distances by air currents before settling (Mulvaney and Hadden 1981).

The median SO4 concentrations for lakes sampled in the Northwestern, North Central, Northern, Northeastern, and Algonquin regions were all above the background sulphate level of 3.0 mg/l, postulated by Dillon (1983) to be typical of remote Canadian shield lakes not affected by long range air pollution. The median SO4 concentration is 3.4 mg/l for the North Central Region, low compared to that of 11.0 mg/l for lakes in the Sudbury zone. Of the lakes sampled in North Central Region, 66.25% have SO4 concentrations above 3.0 mg/l, compared with 99.74% in Algonquin Region, which is located in an area of higher deposition (Figure 9).

Based on these SO4 concentrations, a small proportion of lakes in the North Central Region are potentially stressed when compared to the Northwestern, Northern, Northeastern and

Algonquin regions.

Figure 10 shows that in the North Central Region, the Thunder Bay District has the highest percentage (77.19%) of lakes sampled above 3.0 mg/l SO4.

Districts with a sample size less than 20 were not included in this analysis because SO4 levels in fewer than 20 lakes may not be representative of lakes in the entire district. Hence Nipigon and Terrace Bay districts were omitted from Figure 10.

8.0 TOTAL ALUMINUM

Metals, such as aluminum (Al), are found in elevated concentrations in low pH lakes (Wright and Gjessing 1976); hence there is a strong inverse relationship between pH and aluminum concentrations in lakes (Baker 1982). Both field and laboratory studies have shown that the death of fish in acidic waters can be attributed, not only to low pH levels, but also to elevated concentrations of inorganic aluminum (Baker 1982, Odonell et al. 1984). At a pH of 5.0 to 5.2, aluminum has been found to be toxic in low concentrations. Concentrations of 0.1 mg/l and 0.2 mg/l inorganic aluminum are acutely toxic to white sucker and brook trout fry, respectively (Driscoll et al. 1980, Baker and Schofield 1982).

Both osmoregulatory stress, due to impaired ion exchange, and respiratory distress, caused by mucous clogging of gills and

gill damage, are associated with aluminum toxicity (Baker 1982).

In this data set total Al was measured, total Al being comprised of inorganic and organic forms (Baker 1982). The organically complexed form is less toxic to fish than the inorganic form (Baker 1982). Measurements of total Al may therefore substantially overestimate the potential toxicity to fish (Baker 1982).

Based on the above, lakes sampled with total Al>=0.1 mg/l (the lower limit of toxic effect for fish) were charted for each region and district (Figures 11 and 12).

In the North Central Region, only a small percentage (9.52%) of the sampled lakes have Al>=0.1 mg/l. The median aluminum concentration for sampled lakes in this region is 0.022 mg/l compared with 0.080 mg/l for lakes in the Sudbury loadzone. Since the pH for most of the lakes sampled in this region is above the critical pH (pH >6.0) and Al concentrations are largely below lethal concentrations (Al<0.1 mg/l), it is unlikely that many of the fish populations in this region have been adversely affected by aluminum toxicity.

Figure 12 shows the percentage of sampled lakes having Al>=0.1 mg/l, by MNR administrative district. Thunder Bay district has the highest percentage of sampled lakes with Al concentrations >= 0.1 mg/l. Nipigon and Terrace Bay districts were omitted from this analysis because they had a sample size of less than 20.

9.0 RESOURCES AT RISK

The current status of various sport fish lakes and the sensitivity of these lakes to future acidification is examined in order to determine the potential loss to sport fisheries on both a regional and district scale. Lake trout, brook trout (Salvelinus fontinalis), smallmouth bass, lake whitefish (Coregonus clupeaformis) and walleye lakes are considered because of their importance to anglers. The percentage of sport fish lakes falling into each pH/alkalinity category was used to determine the resources at risk due to acidification. The alkalinity categories used in this section were modified from those of MOE (1983) which were used in the previous analyses. Since no evidence has been been found for fisheries loss at TIA >=40 ueq/l, we consider only 3 alkalinity classes (TIA<=0, 0<TIA<40, TIA>=40 ueq/l).

9.1 Lake Trout

Lake trout, one of the most acid sensitive species (Harvey 1975, Beamish 1976, Beggs et al. 1985), is found throughout the Canadian shield area of Ontario (Figure 13). Of the total number of lake trout lakes, 55% occur in the area of highest

deposition (Beggs et al. 1985).

The pH threshold, below which lake trout are impaired due to acidification, was found to be 5.5 by Beggs et al. (1985), Schindler et al. (1985) and Beamish (1976). In the North Central Region, 100% (N=115) of the sampled lake trout lakes have a pH >=5.5 and are moderately sensitive or not sensitive to acidification stress based on our TIA classification (Figure 14). Thus, it appears that the lake trout fishery in this region is currently not impaired by acidification since all sampled lakes are above the pH threshold of 5.5, and have alkalinities of >40 ueq/l.

9.2 Smallmouth Bass

Smallmouth bass lakes are largely concentrated in southcentral Ontario, the area of highest acid loadings (Figure 15). The distribution of this species is limited by northern latitudes because of the importance of temperature on the population dynamics of this species (Shuter et al. 1980).

Beggs et al. (1986) showed mortality of overwintering young of the year smallmouth bass likely occurs at pHs below 5.15. Harvey (1980) found successful reproduction in this species was impaired at pH 5.3. Since all (N=40) of the smallmouth bass lakes sampled in the North Central Region have a pH >=6.0 and are moderately sensitive to acidification stress, we would

predict that the health of smallmouth bass populations in this region is currently unaffected by acidification (Figure 14).

9.3 Lake Whitefish

Figure 16 illustrates that lake whitefish lakes are widely distributed throughout Ontario.

Preliminary results of laboratory experiments suggest that the pH threshold for lake whitefish fry held in waters of calcium=3.5 mg/l is approximately 4.5 (P. Ihssen pers. comm.). This threshold pH compares favourably with Harvey's findings (pH 4.5) for lake whitefish in the LaCloche mountain lakes (Harvey 1979). However, in a netting survey of Grace Lake (pH 4.93) in Northeastern Region, only two mature whitefish were captured, suggesting the population is small and no longer recruiting (V. Liimatainen pers. comm.). We therefore assume the threshold for lake whitefish to be pH 5.0.

All (N=169) sampled lake whitefish lakes in the North Central Region have a pH >=6.0 and are moderately sensitive or not sensitive to acidification based on our TIA classes (Figure 15). It, therefore, appears that the lake whitefish populations in this region are currently not stressed by acidification.

9.4 Walleye

Walleye are widely distributed throughout Ontario (Figure 17). This species, although tolerant of a great range of environmental conditions, appears to reach greatest abundance in large shallow, turbid lakes (Scott and Crossman 1973).

Beamish (1976) observed walleye populations to decline or disappear between a pH of 5.5 and 6.0. Figure 14 shows that 100% (N=172) of the sampled walleye lakes in the North Central Region have pHs >=6.0 and are moderately sensitive or not sensitive to acidification based on our TIA classes. Since walleye are at risk due to acidification when the pH is below 6.0 (Hulsman et al. 1983). Walleye populations in this region are not likely impaired by acidification.

9.5 Brook Trout

The majority of brook trout lakes are found in southcentral Ontario, the area of highest acid loadings (Figure 18). Brook trout lakes, being small in area and high in elevation, are very susceptible to surface water acidification (Beggs et al. 1986).

The threshold pH for brook trout has been found to be 5.0 by Schofield (1976) and Beggs et al. (1986). This threshold pH is supported by field observations by Beggs et al. (1985). Netting surveys of 17 brook trout lakes (pH 4.7-6.2) showed an

absence of brook trout in lakes with pH <5.0. Figure 14 shows that 100% (N=29) of the brook trout lakes in this region have pHs >5.0 and are moderately or not sensitive to acidification. Hence, the brook trout in these lakes are probably not stressed by acidic deposition.

10.0 SUMMARY

Deposition data from MOE sampling stations shows that the North Central Region receives a mean annual rain pH of 4.5 (MOE 1983). This is 12 times more acidic than pure rain unaffected by long range transport (pH 5.6).

Sulphate levels in 66.25% of the sampled lakes within the region are above background levels; therefore, a large portion of the lakes in this region have been affected by long range transport of sulphuric oxides.

Based on alkalinity classes, the majority (97.91%) of lakes sampled in this region are well buffered, being moderately to not sensitive to acidification. No lakes sampled were acidified.

In the North Central Region, 99.43% of the lakes sampled have pHs >=5.5, suggesting that fish populations in this region are currently not impaired by acidic deposition.

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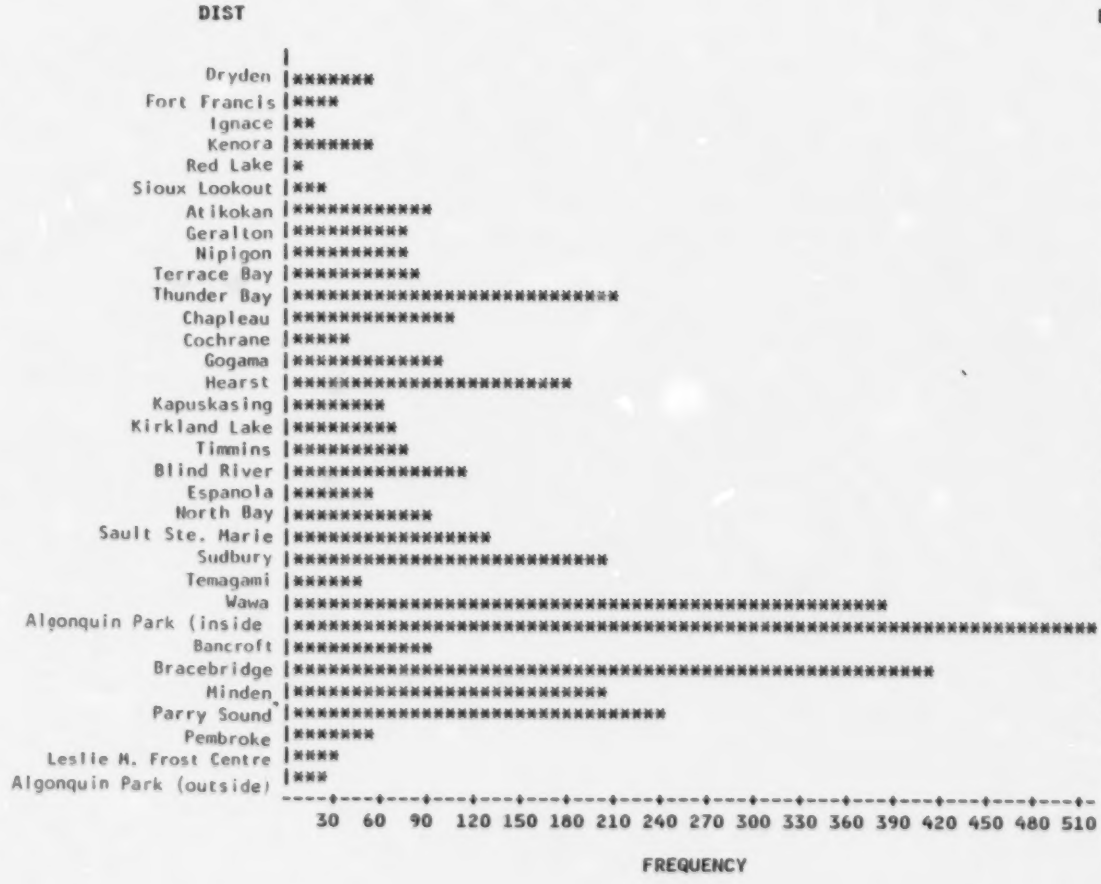
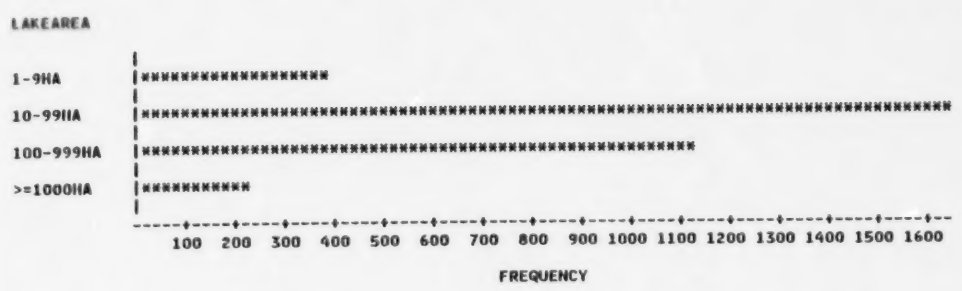
FIGURE 1: THE NUMBER OF LAKES SAMPLED IN EACH MNR ADMINISTRATIVE DISTRICT FROM THE SENSITIVITY DATA SET.



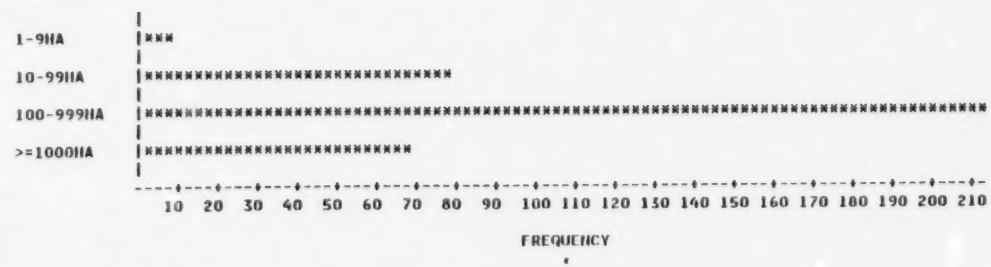
NOTE: NOT ALL LAKES SAMPLED HAVE DATA FOR EACH OF THE VARIABLES (IE. LAKE AREA ETC.), THEREFORE THE TOTAL NUMBERS OF LAKES SAMPLED, SHOWN IN SUBSEQUENT FIGURES, MAY BE DIFFERENT.

FIGURE 2: THE PERCENTAGE OF SAMPLED LAKES IN EACH LAKE AREA CLASS - FOR ALL OF ONTARIO.



LAKEAREA	FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1-9HA	386	386	11.51	11.51
10-99HA	1633	2019	48.70	60.21
100-999HA	1116	3135	33.28	93.50
>=1000HA	218	3353	6.50	100.00

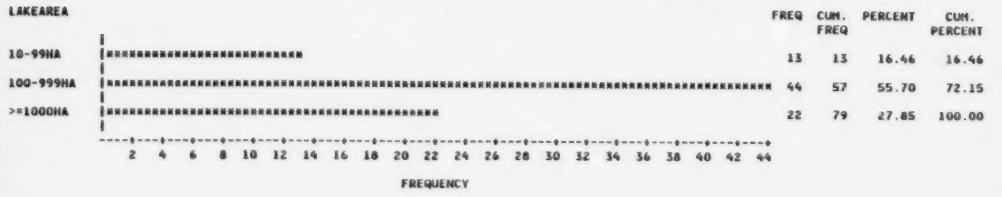
FOR NORTH CENTRAL REGION



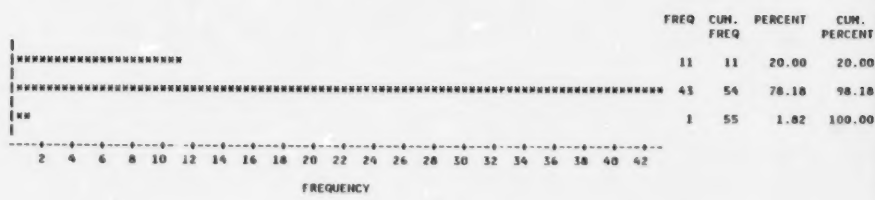
LAKEAREA	FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1-9HA	7	7	1.92	1.92
10-99HA	77	84	21.10	23.01
100-999HA	213	297	58.36	81.37
>=1000HA	68	365	18.63	100.00

FIGURE 3: THE PERCENTAGE OF SAMPLED LAKES IN EACH LAKE AREA CLASS BY DISTRICT.

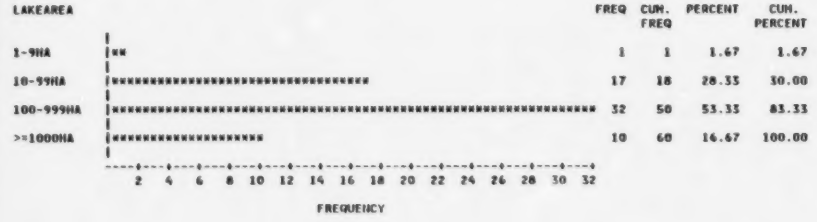
Atikokan



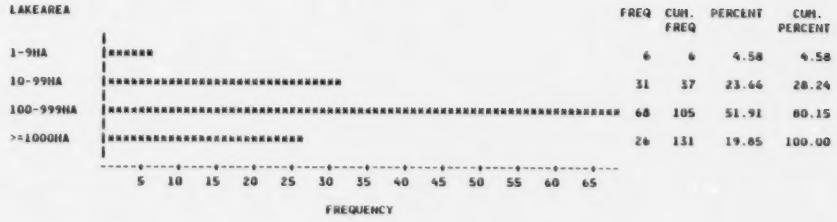
Terrace Bay



Geralton



Thunder Bay



Nipigon

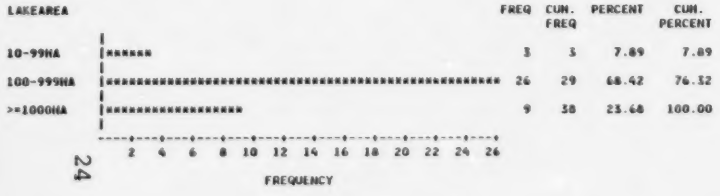


FIGURE 4: MNR ADMINISTRATIVE DISTRICT MAP WITH ADJUSTED PH ISOPLETHS AND THE SUDBURY DEPOSITION ZONE SUPERIMPOSED.

FIGURE 5: THE CHEMICAL SENSITIVITY TO ACID PRECIPITATION BASED ON THE COMPOSITION OF SOILS AND BEDROCK (FROM SHILTS 1981).

HIGH SENSITIVITY

Granite, granite gneiss, orthoquartzite, syenite

INTERMEDIATE-HIGH SENSITIVITY

Volcanic rocks, shales, greywacke sandstones, ultramafic rocks, gabbro, mudstone and metamorphic equivalents

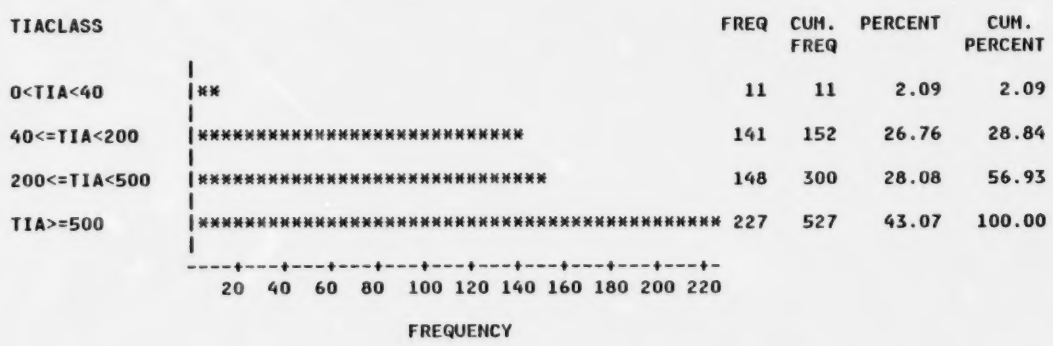
INTERMEDIATE-LOW SENSITIVITY

Calcareous clastic rocks and carbonate rocks interbedded or interspersed with noncalcareous sedimentary, igneous and metamorphic rocks

LOW SENSITIVITY

Limestone, dolomite and metamorphic equivalents

FIGURE 6: ALKALINITY AND PH CLASS OF SAMPLED LAKES IN THE NORTH CENTRAL REGION.



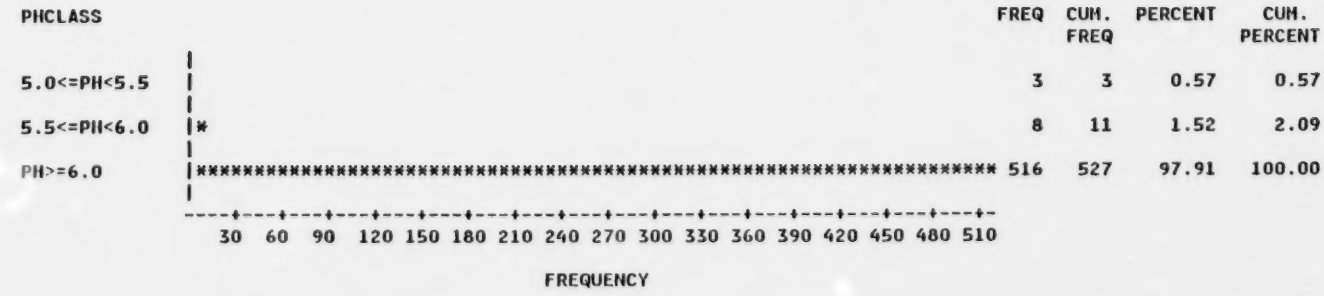
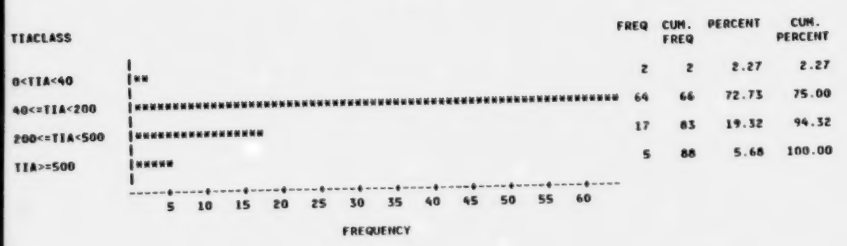
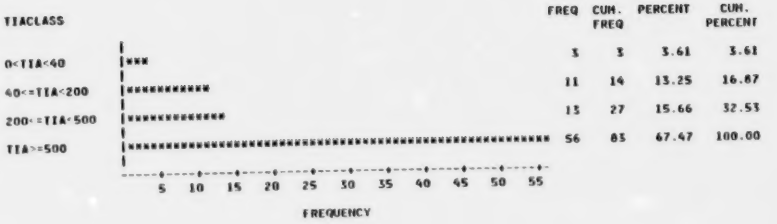


FIGURE 7: THE PERCENTAGE OF SAMPLED LAKES IN EACH ALKALINITY CLASS BY DISTRICT.

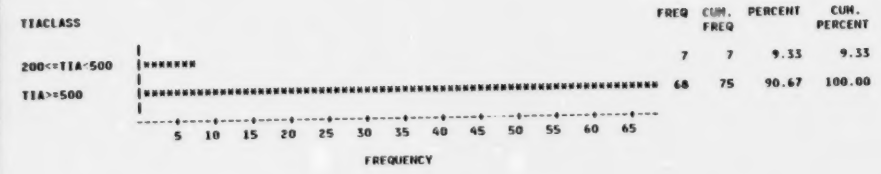
Atikokan



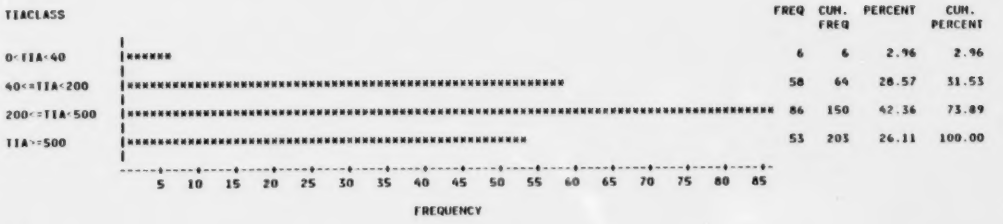
Terrace Bay



Geralton



Thunder Bay



Nipigon

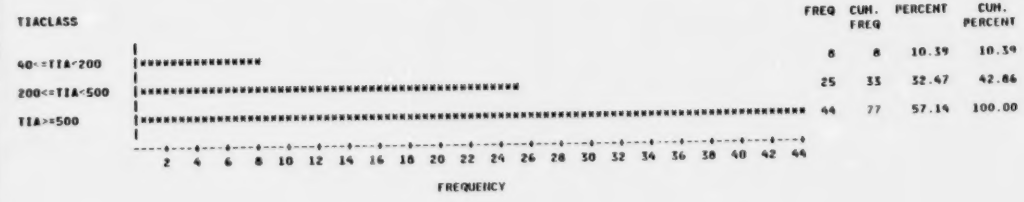
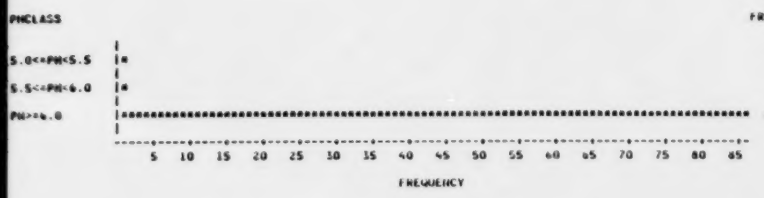
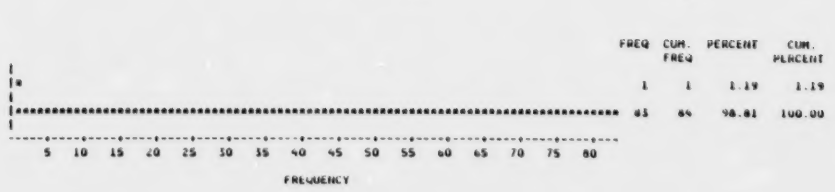


FIGURE 8: THE PERCENTAGE OF SAMPLED LAKES IN EACH PH CLASS BY DISTRICT.

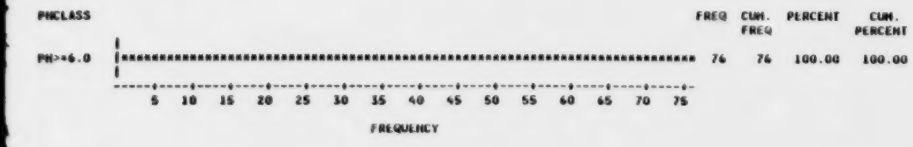
Atikokan



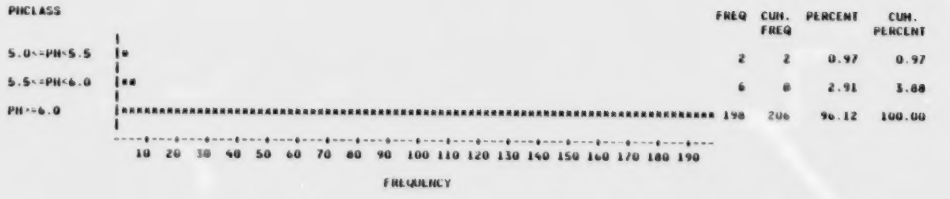
Terrace Bay



Geralton



Thunder Bay



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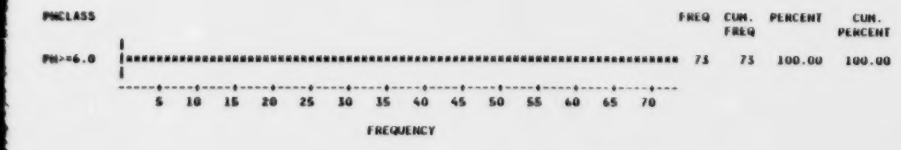
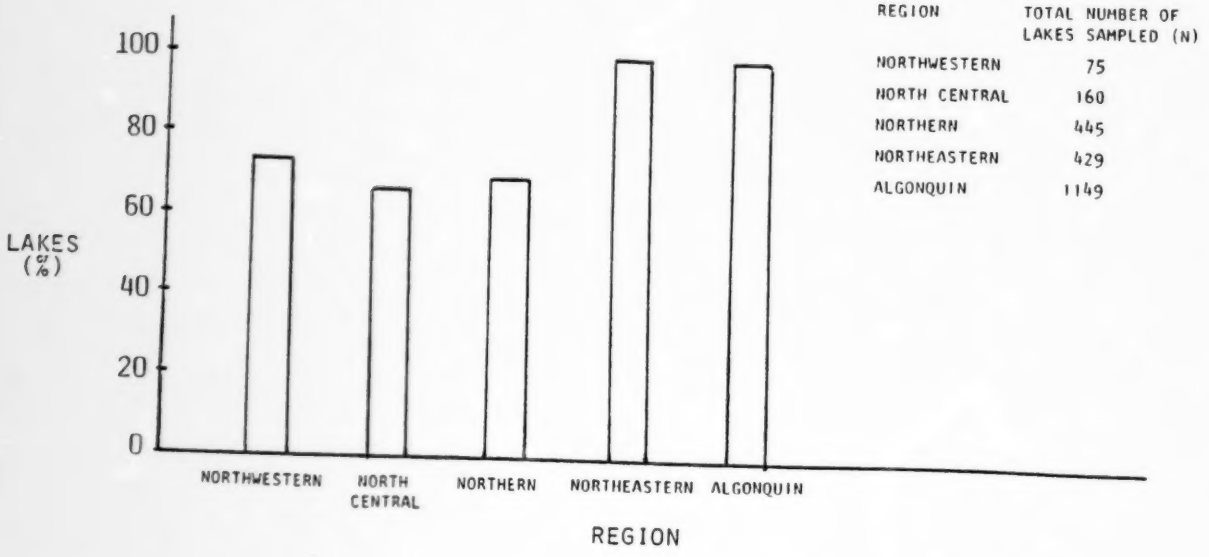
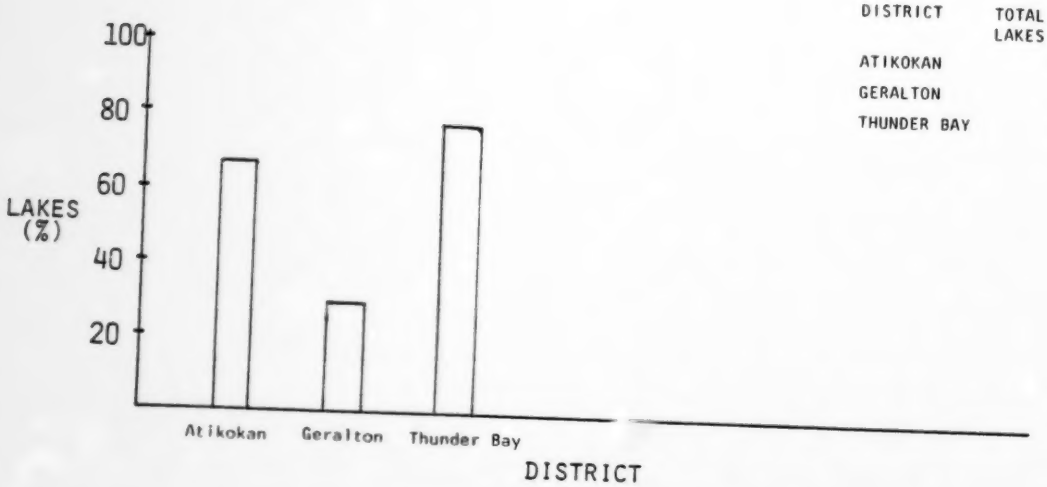


FIGURE 9: PERCENTAGE OF SAMPLED LAKES ABOVE THE BACKGROUND LEVEL OF 3.0 MG/L SO4 - BY REGION.



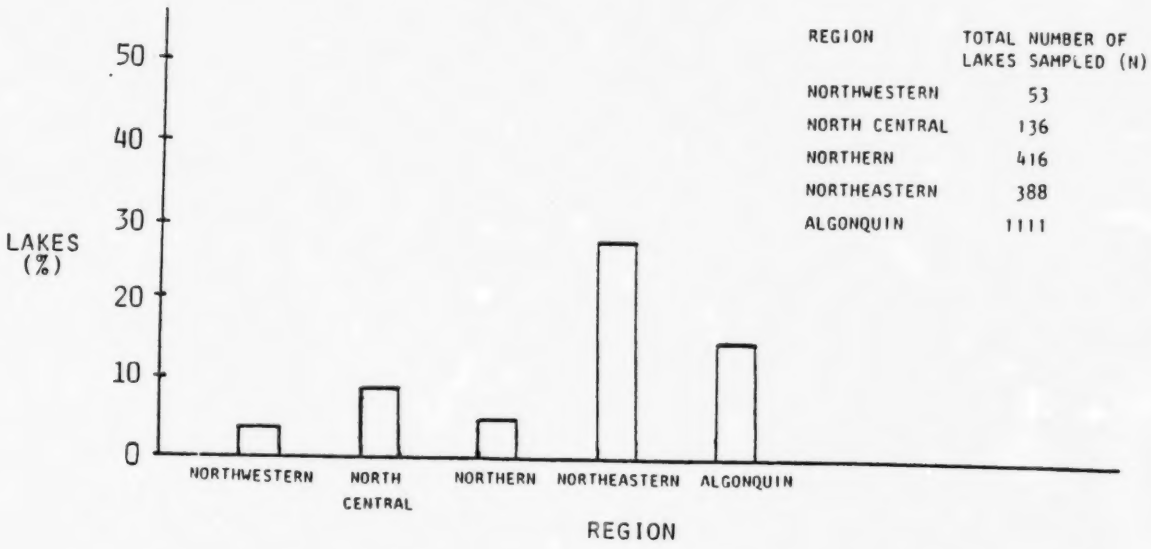
REGION	TOTAL NUMBER OF LAKES SAMPLED (N)
NORTHWESTERN	75
NORTH CENTRAL	160
NORTHERN	445
NORTHEASTERN	429
ALGONQUIN	1149

FIGURE 10: PERCENTAGE OF SAMPLED LAKES ABOVE THE BACKGROUND LEVEL OF 3.0 MG/L SO4 - BY DISTRICT.



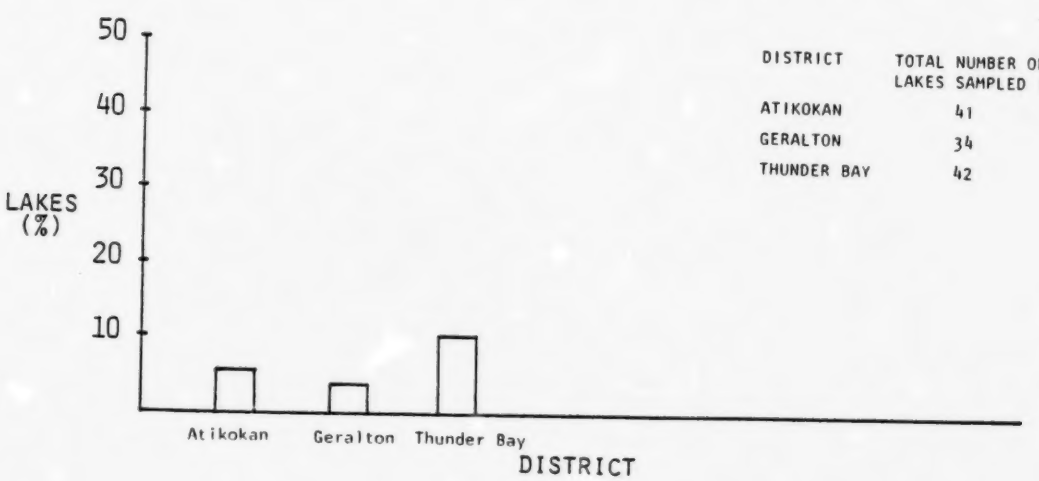
DISTRICT	TOTAL NUMBER OF LAKES SAMPLED (N)
ATIKOKAN	45
GERALTON	34
THUNDER BAY	57

FIGURE 11: PERCENTAGE OF SAMPLED LAKES WITH TOTAL ALUMINUM >= 0.1 MG/L (LOWER LIMIT OF TOXIC EFFECT) - BY REGION.



REGION	TOTAL NUMBER OF LAKES SAMPLED (N)
NORTHWESTERN	53
NORTH CENTRAL	136
NORTHERN	416
NORTHEASTERN	388
ALGONQUIN	1111

FIGURE 12: PERCENTAGE OF SAMPLED LAKES WITH TOTAL ALUMINUM >= 0.1 MG/L (LOWER LIMIT OF TOXIC EFFECT) - BY DISTRICT.



DISTRICT	TOTAL NUMBER OF LAKES SAMPLED (N)
ATIKOKAN	41
GERALTON	34
THUNDER BAY	42

FIGURE 13 : DISTRIBUTION OF LAKE TROUT LAKES IN ONTARIO SAMPLED FOR ANALYSIS OF WATER CHEMISTRY.

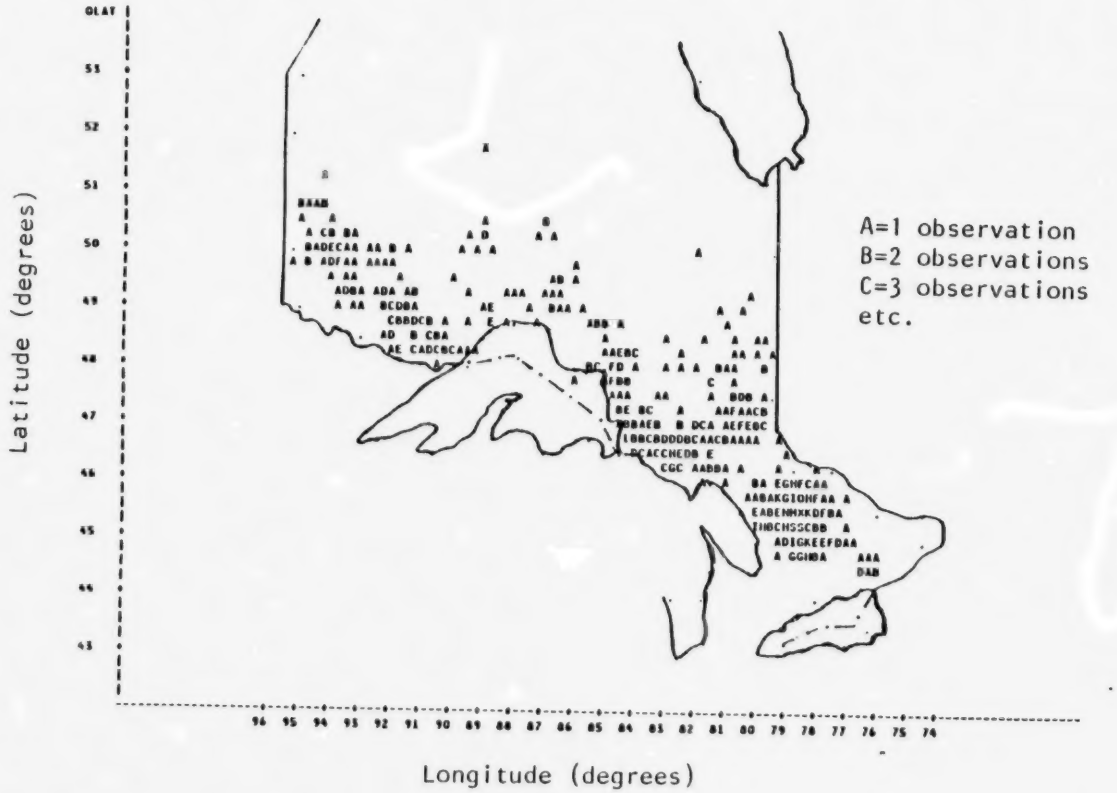
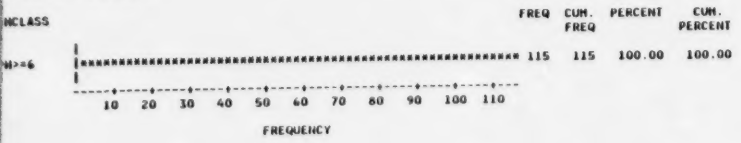
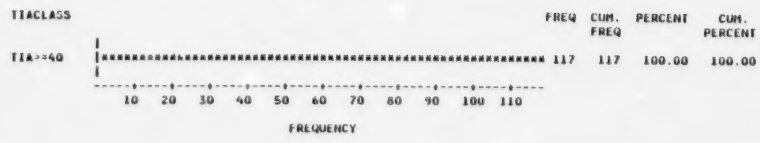


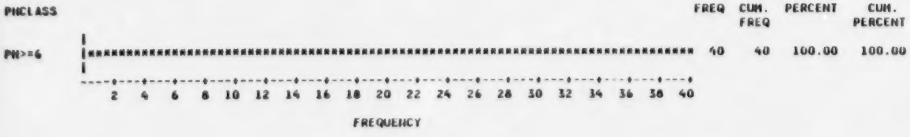
FIGURE 14: THE PERCENTAGE OF SAMPLED LAKE TROUT, SMALLMOUTH BASS, LAKE WHITEFISH, WALLEYE, AND BROOK TROUT IN TIA/PH CLASSES - NORTH CENTRAL REGION.

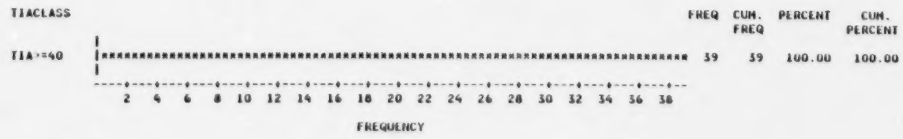
LAKE TROUT



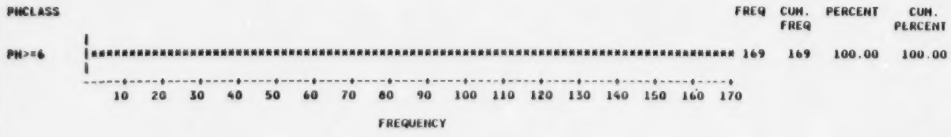


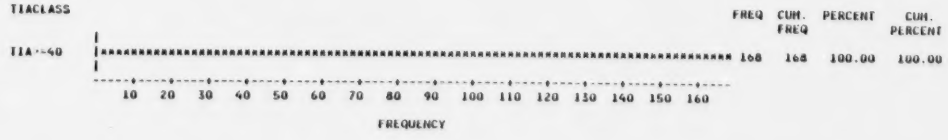
SMALLMOUTH BASS



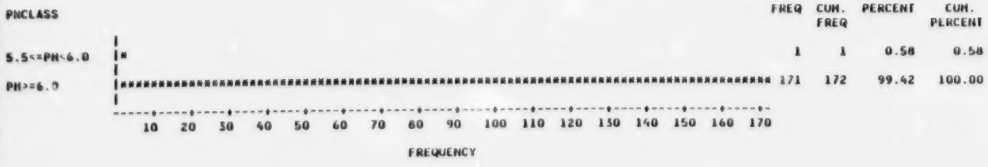


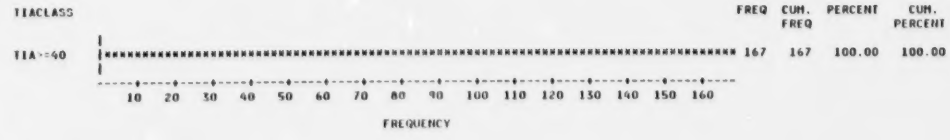
LAKE WHITEFISH





WALLEYE





BROOK TROUT

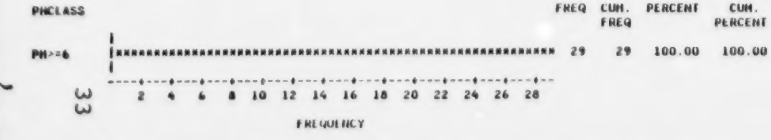


FIGURE 15: DISTRIBUTION OF SMALLMOUTH BASS LAKES IN ONTARIO SAMPLED FOR ANALYSIS OF WATER CHEMISTRY.

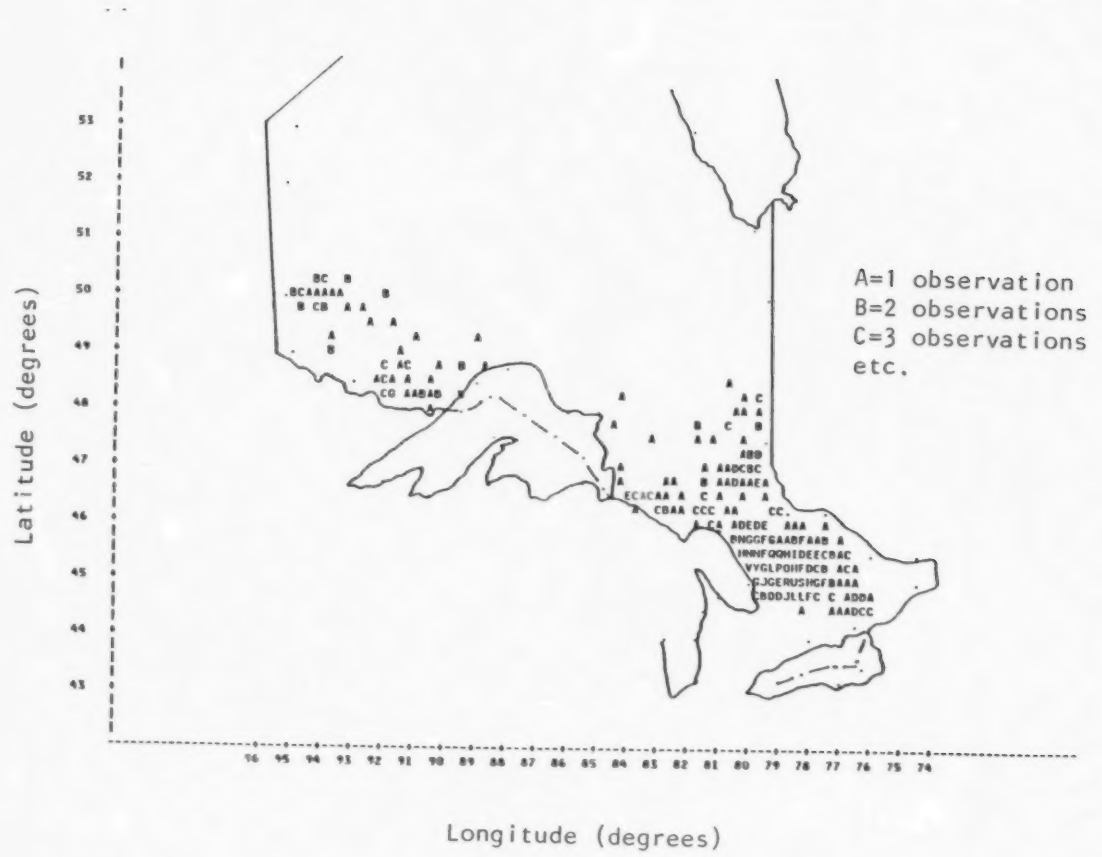


FIGURE 16: DISTRIBUTION OF LAKE WHITEFISH LAKES IN ONTARIO SAMPLED FOR ANALYSIS OF WATER CHEMISTRY.

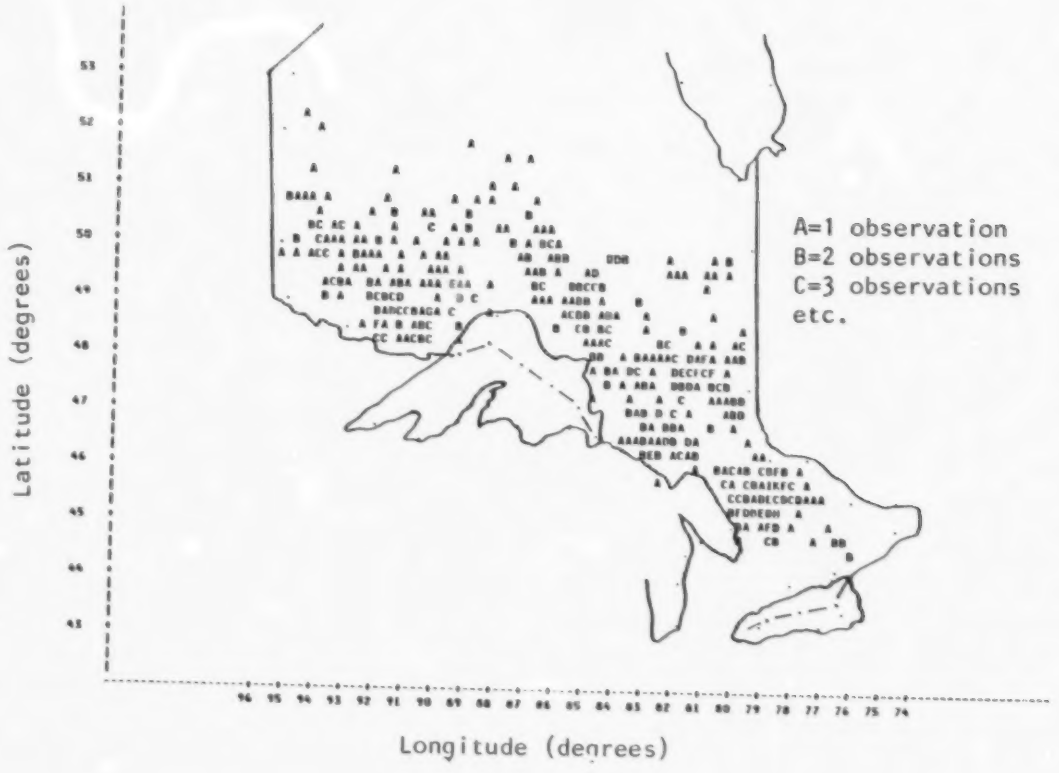


FIGURE 17: DISTRIBUTION OF WALLEYE LAKES IN ONTARIO SAMPLED FOR ANALYSIS OF WATER CHEMISTRY.

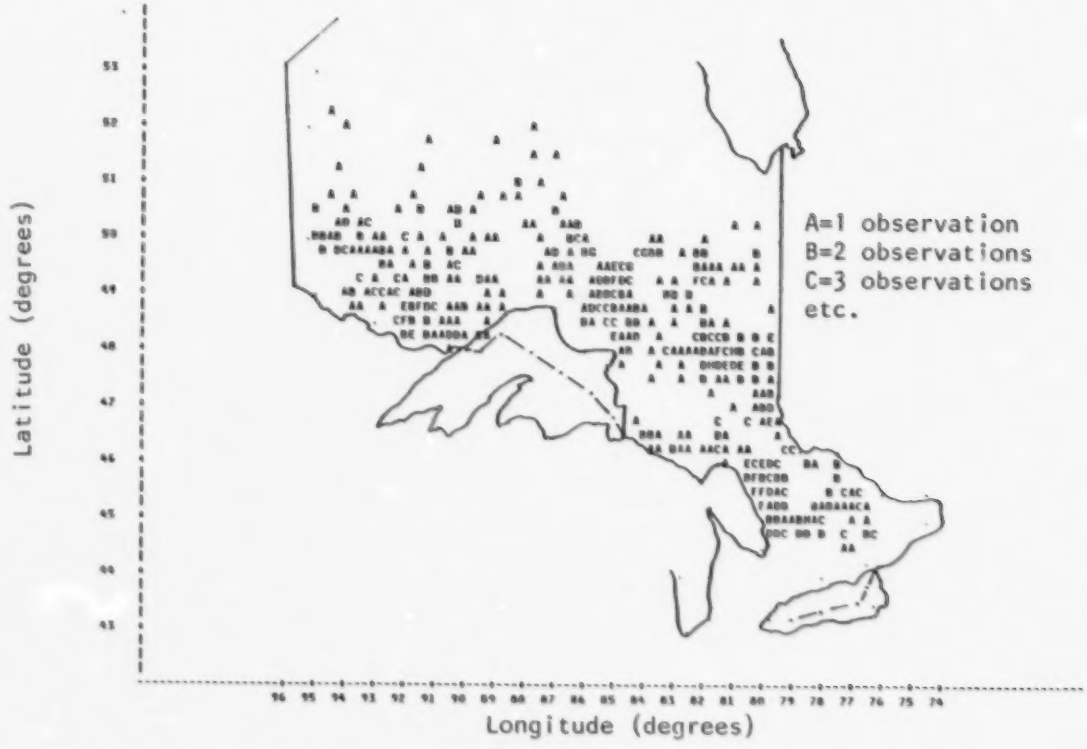


FIGURE 18: DISTRIBUTION OF BROOK TROUT LAKES IN ONTARIO SAMPLED FOR ANALYSIS OF WATER CHEMISTRY.

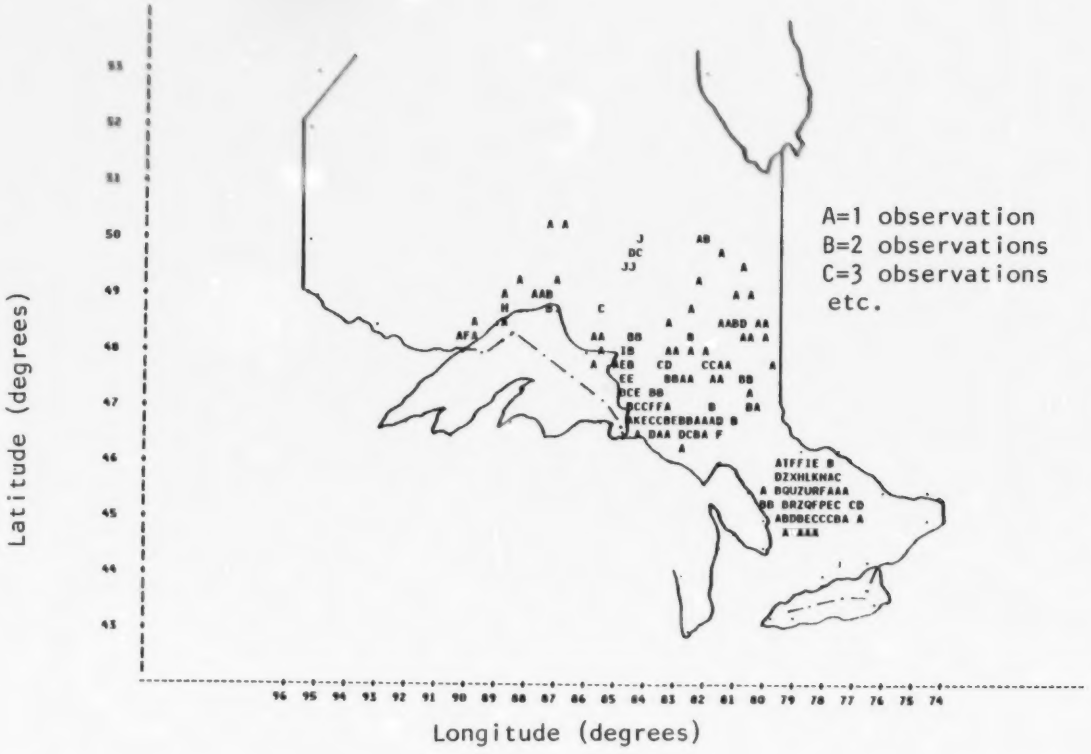


TABLE 1: WATER CHEMISTRY DATA FOR EXTREMELY SENSITIVE (0>TIA>40 UEQ/L) LAKES IN NORTH CENTRAL REGION.

ATIKOKAN DISTRICT - EXTREMELY SENSITIVE

LAKE	LAT	LONG	WSHED	TWP	LKAREA	WSHEDA	YR	MONTH	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
LINDGREN LAKE	4831	9221	5PA02	UNORGANIZED	.	.	81	7	2	5.68	22	20	.	.	.	.	.	.	.	.	.	.	.
NEVISON LAKE	4851	9152	5PB21	UNORGANIZED	.	.	81	7	2	5.48	20	21	.	.	.	.	.	.	.	.	.	.	.

TERRACE BAY DISTRICT - EXTREMELY SENSITIVE

LAKE	LAT	LONG	WSHED	TWP	LKAREA	WSHEDA	YR	MONTH	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
CLOUTIER LAKE	4905	8734	2EA05	UNORGANIZED	.	.	81	6	4	6.30	28	13	.	.	.	.	.	.	.	.	.	.	.
HALL LAKE	4908	8734	2AE05	UNORGANIZED	.	.	81	6	4	5.58	14	22	.	.	.	.	.	.	.	.	.	.	.
SEELEY LAKE	4849	8624	2BA07	UNORGANIZED	.	.	81	6	17	6.15	24	27	.	.	.	.	.	.	.	.	.	.	.

THUNDER BAY - EXTREMELY SENSITIVE

LAKE	LAT	LONG	HSHED	TWP	LKAREA	WSHEDA	YR	MONTH	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
BAMOOS LAKE	4849	8621	2B		.	.	84	2	22	6.411	39.2	35.2	17	.	4.1	3.3	0.82	0.76	0.34	8.85	0.084	0.018	.
BEAVERKIT LAKE	4839	8921	2AB10	JACQUES	.	.	80	7	8	5.150	12.0	27.0	.	.	.	.	.	.	.	.	.	.	.
HOWCUM LAKE	4840	8918	2AB06	JACQUES	.	.	79	8	13	5.800	6.0	32.0	.	.	.	.	.	.	.	.	.	.	.
INWOOD LAKE	4901	9027	5PB24	INWOOD	9.7	.	78	8	.	5.190	30.6	.	.	.	.	.	.	.	.	.	.	.	.
LAKE 45 (NL)	4919	9015	4GB05	UNORGANIZED	.	.	80	8	26	6.050	20.0	88.0	.	.	.	.	.	.	.	.	.	.	.
NL	4841	9056	5PA03	(UNORGANIZED)	67.0	.	78	7	.	5.800	31.8	23.0	.	.	.	.	.	.	.	.	.	.	.

APPENDICES

Appendix 1

Abbreviations of chemical and physical parameters used in this report.

LAT	- latitude
LONG	- longitude
WSHED	- watershed
TWP	- township
LKAREA	- lake area
WSHEDA	- watershed area
Yr	- year
Mth	- month
pH	- acidity
TIA	- total inflection point alkalinity (ueq/l)
COND	- conductivity (umhos/cm)
COLAP	- apparent colour of sampled lake (hazen units)
COLTR	- true colour of sampled lake (hazen units)
DOC	- dissolved organic carbon (mg/ml)
CA	- calcium (mg/l)
MG	- magnesium (mg/l)
Na	- sodium (mg/l)
K	- potassium (mg/l)
SO_4	- sulphate (mg/l)
AL	- aluminum (mg/l)
MN	- manganese (mg/l)
Fe	- iron (mg/l)
STDATE	- station date
SPNB	- species number
LT	- lake trout
BT	- brook trout
SMB	- smallmouth bass
LWF	- lake whitefish

Appendix II

Alphabetical listing of all sampled lakes in North Central Region

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
178	ABIGOGAMI LAKE	4900	8849	2AC19		25	540.0	3430.0	80	3
179	ADAIRS LAKE (NL)	4843	8456	4JA04	STRICKLAND	26	74.2	.	84	2
180	ADDERLY LAKE (NL)	4854	8916	2AC10	UNORGANIZED	25	.	.	80	8
181	ADRIAN LAKE	4827	8949	2AB04	ADRIAN	25	34.0	.	80	8
182	AGNES LAKE	4815	9120	5PA05		21	3302.0	17671.0	82	10
183	AGONZON LAKE	4901	8550	2BB02	UNORGANIZED	24	149.5	36280.2	81	7
184	ALBERT LAKE	4906	8858	2AC08	UNORGANIZED	23	.	.	80	7
185	ALBERTA LAKE	4852	8603	2BB03	UNORGANIZED	24	.	.	81	6
186	ALDRIDGE LAKE	5008	8948	4GB07	UNORGANIZED	23	.	.	81	7
187	ALLELY LAKE	4937	9020	4GB04	UNORGANIZED	25	684.1	.	81	7
188	ALTITUDE LAKE	4952	8725	4JF26	UNORGANIZED	23	.	.	81	6
189	AMP LAKE	4839	9018	2AB04	HAINES	25	92.9	.	78	7
190	ANDERS LAKE	4900	8855	2AC08	UNORGANIZED	25	.	.	80	7
191	ARAMIS LAKE	4844	9123	5PA03	(UNORGANIZED)	21	122.3	.	78	8
192	ARBOUR LAKE	4840	9050	5PA05	(UNORGANIZED)	25	87.9	.	78	7
193	ARGO LAKE	4815	9148	5PA04		21	987.0	2150.0	81	7
194	ARGON LAKE	4849	9009	5PB01	UNORGANIZED	25	.	.	81	6
195	ARMISTICE LAKE	4921	8955	2AD24	UNORGANIZED	25	1397.3	.	81	7

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
178	1	7.710	1134.4	128.0	10.0	.	.	16.0	4.00	1.60	0.47	3.65	0.010	0.007	0.012
179	16	7.190	684.0	86.3	13.0	.	6.7	10.5	2.58	1.55	0.38	3.97	0.025	0.007	.
180	6	7.050	226.0	38.0	.	.	.	.	.	.	.	.	.	.	.
181	4	7.700	1246.0	138.0	.	.	.	.	.	.	.	.	.	.	.
182	27	6.920	116.0	28.0	6.0	.	.	2.6	0.80	0.58	0.41	4.16	0.020	0.002	0.016
183	21	7.480	1026.0	256.0	.	.	.	.	.	.	.	.	.	.	.
184	18	7.600	956.0	186.0	.	.	.	.	.	.	.	.	.	.	.
185	17	7.450	558.0	67.0	.	.	.	.	.	.	.	.	.	.	.
186	14	6.470	136.0	27.0	.	.	.	.	.	.	.	.	.	.	.
187	14	6.950	286.0	40.0	.	.	.	.	.	.	.	.	.	.	.
188	22	8.120	1998.0	201.0	.	.	.	.	.	.	.	.	.	.	.
189	.	7.400	521.0	63.0	.	.	.	.	.	.	.	.	.	.	.
190	25	7.800	940.0	111.0	.	.	.	.	.	.	.	.	.	.	.
191	.	7.130	171.0	.	.	.	.	.	.	.	.	.	.	.	.
192	.	6.690	64.0	31.0	.	.	.	.	.	.	.	.	.	.	.
193	15	7.210	119.2	26.0	4.0	.	.	3.0	1.00	0.71	0.57	3.40	.	.	.
194	9	7.020	316.0	54.0	.	.	.	.	.	.	.	.	.	.	.
195	14	7.460	758.0	95.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
196	ARROW LAKE	4809	9016	2AA03	UNORGANIZED	25	3316.9	46609.9	80	8
197	ATHELSTANE LAKE	4846	9012	2AB12		25	1797.0	9810.0	80	7
198	AULT LAKE	4858	8739	2AE05	YESNO	24	103.3	.	84	2
199	AVEY LAKE	4959	9000	4GB04	UNORGANIZED	25	.	.	80	7
200	AWKWARD LAKE	4959	8941	2AD10	UNORGANIZED	25	224.0	.	81	7
201	BADWATER LAKE	4829	9157	5PA02	(UNORGANIZED)	21	192.8	.	78	7
202	BALLARD LAKE	4818	9149	5PA04	(UNORGANIZED)	21	112.6	.	78	7
203	BAMOOS LAKE	4849	8621	2B		25	.	.	84	2
204	BANNING LAKE	4845	9158	5PB18	(UNORGANIZED)	21	254.5	.	78	8
205	BARBARA LAKE	4920	8747	2AD19	UNORGANIZED	23	2354.3	.	81	6
206	BARIL LAKE	4845	9045	5PA03		25	1355.0	5400.0	80	10
207	BARNUM LAKE	4839	8915	2AB10	JACQUES	25	66.9	.	79	8
208	BART LAKE	4812	9141	5PA04		21	164.0	635.0	81	5
209	BASS LAKE	4839	8844	2AC07	MCTAVISH	25	54.5	.	80	8
210	BATCHEWAUNG LAKE	4840	9130	5PA03	(UNORGANIZED)	21	1275.3	.	78	7
211	BATISE LAKE	4947	8543	4JD07		22	63.2	.	84	2
212	BATWING LAKE	4826	9010	2AB11	UNORGANIZED	25	624.7	.	80	7
213	BEACON LAKE	5013	8854	2AD11	UNORGANIZED	23	.	.	80	7
214	BEARPELT LAKE	4829	9202	5PA02		21	223.6	6151.0	81	9
215	BEAVERHOUSE LAKE	4833	9206	5PA02		21	2010.0	68590.0	82	10
216	BEAVERKIT LAKE	4839	8921	2AB10	JACQUES	25	.	.	80	7
217	BEDIVERE LAKE	4852	9051	5PB23	UNORGANIZED	25	2252.2	.	81	7
218	BENDALL LAKE	5104	8828	4GD17	UNORGANIZED	22	.	.	80	7
219	BESSIE LAKE (IRA) (NL)	4954	8612	4JD13	O'MEARA	22	98.9	.	84	2
220	BICKNELL LAKE	4950	8539	4JD07	LOW	22	175.2	.	84	2

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
196	1	7.900	652.0	86.0	.	.	.	.	.	.	.	.	.	.	.
197	14	7.620	372.6	51.0	5.0	.	.	5.0	0.30	1.00	0.63	.	.	.	.
198	22	6.579	78.6	28.3	47.0	.	8.7	3.2	0.68	0.50	0.14	4.81	0.120	0.005	.
199	24	6.560	100.0	23.0	.	.	.	.	.	.	.	.	.	.	.
200	14	6.420	118.0	26.0	.	.	.	.	.	.	.	.	.	.	.
201	.	6.560	102.0	20.0	.	.	.	.	.	.	.	.	.	.	.
202	.	6.620	89.4	19.0	.	.	.	.	.	.	.	.	.	.	.
203	22	6.411	39.2	35.2	17.0	.	4.1	3.3	0.82	0.76	0.34	8.85	0.084	0.018	.
204	.	6.830	262.0	.	.	.	.	.	.	.	.	.	.	.	.
205	22	6.890	374.0	39.0	.	.	.	.	.	.	.	.	.	.	.
206	1	6.940	137.8	30.0	28.0	.	.	2.0	2.00	0.80	0.60	4.10	0.014	0.027	0.200
207	13	5.900	64.0	28.0	.	.	.	.	.	.	.	.	.	.	.
208	23	6.960	110.2	27.0	14.0	.	.	3.0	1.00	1.10	0.36	4.70	0.021	0.006	0.001
209	5	8.100	978.0	110.0	.	.	.	.	.	.	.	.	.	.	.
210	.	6.590	98.4	22.0	.	.	.	.	.	.	.	.	.	.	.
211	21	7.870	1502.0	163.0	71.0	.	14.1	23.3	5.98	2.40	0.24	2.56	0.009	0.004	.
212	9	6.900	196.0	34.0	.	.	.	.	.	.	.	.	.	.	.
213	23	8.220	1012.0	109.0	.	.	.	.	.	.	.	.	.	.	.
214	29	7.010	187.4	33.0	32.0	.	.	2.0	2.00	1.10	0.67	2.90	0.045	0.021	0.083
215	27	6.910	124.8	28.0	11.0	.	.	2.4	0.87	0.63	0.69	3.50	0.040	0.002	0.034
216	8	5.150	12.0	27.0	.	.	.	.	.	.	.	.	.	.	.
217	23	6.720	208.0	37.0	.	.	.	.	.	.	.	.	.	.	.
218	22	8.150	1120.0	116.0	.	.	.	.	.	.	.	.	.	.	.
219	21	8.260	2312.0	222.0	5.5	.	4.8	33.1	6.06	0.65	0.56	1.39	0.005	0.005	.
220	29	7.650	1436.0	145.0	52.5	.	12.7	21.8	5.02	0.66	0.18	2.60	0.013	0.013	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
221	BIG BRUIN LAKE (BEAR)	4851	8713	2B		25	.	.	84	2
222	BIG DUCK LAKE	4900	8715	2BA04		24	224.0	.	84	2
223	BIG LAKE	5024	8900	2AD11	UNORGANIZED	23	.	.	80	7
224	BIG PEARL LAKE	4841	8840	2AC07	MCTAVISH	25	53.7	.	79	8
225	BISHOP LAKE	4928	8552	2BB09	UNORGANIZED	24	.	.	81	7
226	BISHOP LAKE	4938	9029	4GB04	UNORGANIZED	25	.	.	81	7
227	BISHOPS LAKE (NL)	4850	8839	2AC14	GLEN	25	.	.	80	7
228	BLACK MOUNTAIN LAKE	4903	8843	2AC09	UNORGANIZED	23	67.9	.	79	8
229	BLACK STURGEON LAKE	4920	8853	2AC09	UNORGANIZED	23	5062.5	.	81	6
230	BOLD LAKE	4900	9207	5PB16	UNORGANIZED	21	.	.	81	7
231	BOOMERANG LAKE	4917	8623	2BA08	UNORGANIZED	24	421.4	.	80	5
232	BOULDER LAKE	5013	8928	4GB07	UNORGANIZED	23	.	.	80	6
233	BOULEVARD LAKE	4827	8912	2AB10	MCINTYRE	25	54.4	.	78	8
234	BOUND LAKE	4927	8521	4JC10	UNORGANIZED	24	245.8	.	81	7
235	BOX LAKE	4917	8928	2AD04	UNORGANIZED	25	.	.	84	10
236	BRAY LAKE	4913	8710	2BA05	UNORGANIZED	24	.	.	81	6
237	BREWER LAKE	4817	9158	5PA04	(UNORGANIZED)	21	102.1	.	78	7
238	BUHL LAKE	4917	8620	2BB08	UNORGANIZED	24	.	.	81	6
239	BULLMOOSE LAKE	4829	9220	5PA02		21	128.0	2486	81	5
240	BURCHELL LAKE	4835	9038	5PA05		25	1074.0	7464	80	7
241	BURNESS LAKE (RAVEN)	5103	8727	4GE14	UNORGANIZED	22	342.9	.	80	6
242	CALM LAKE	4846	9204	5PB18	TANNER	21	2482.8	.	78	8
243	CAMERON LAKE	4810	9006	2AA03	HARDWICK	25	30.6	259	80	8
244	CAMPBELL LAKE	5034	8901	4GB11	UNORGANIZED	23	594.4	.	81	6
245	CARAGANA LAKE	4914	8644	2BA01	UNORGANIZED	24	173.9	.	80	5

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
221	22	6.535	67.0	32	58.0	.	9.0	3.7	0.56	0.60	0.18	6.20	0.220	0.018	.
222	22	7.093	171.0	39	29.5	.	5.7	5.5	0.78	0.50	0.20	5.94	0.067	0.003	.
223	22	6.810	164.0	28	.	.	.	.	.	.	.	.	.	.	.
224	8	8.150	954.0	68	.	.	.	.	.	.	.	.	.	.	.
225	21	7.770	792.0	108	.	.	.	.	.	.	.	.	.	.	.
226	14	6.800	228.0	31	.	.	.	.	.	.	.	.	.	.	.
227	15	8.300	3846.0	445	.	.	.	.	.	.	.	.	.	.	.
228	29	8.450	2840.0	318	.	.	.	.	.	.	.	.	.	.	.
229	30	7.040	632.0	120	.	.	.	.	.	.	.	.	.	.	.
230	2	7.280	296.0	41	.	.	.	.	.	.	.	.	.	.	.
231	29	7.670	948.0	125	.	.	.	.	.	.	.	.	.	.	.
232	22	6.950	192.0	34	.	.	.	.	.	.	.	.	.	.	.
233	.	7.510	585.0	.	.	.	.	.	.	.	.	.	.	.	.
234	8	7.830	1144.0	128	.	.	.	.	.	.	.	.	.	.	.
235	29	7.340	254.0	39	45.0	.	9.5	4.9	1.80	0.88	0.24	3.18	0.020	0.008	0.12
236	4	7.410	774.0	102	.	.	.	.	.	.	.	.	.	.	.
237	.	7.020	308.0	47	.	.	.	.	.	.	.	.	.	.	.
238	11	7.020	298.0	47	.	.	.	.	.	.	.	.	.	.	.
239	21	7.080	322.2	26	96.0	.	.	2.0	1.00	1.10	0.50	5.30	0.210	0.023	0.36
240	14	7.820	483.6	80	5.0	.	.	12.0	0.10	1.40	0.69	.	.	.	.
241	19	7.370	572.0	80	.	.	.	.	.	.	.	.	.	.	.
242	.	7.100	267.0	.	.	.	.	.	.	.	.	.	.	.	.
243	1	7.300	186.0	43	.	.	.	.	.	.	.	.	.	.	.
244	25	6.790	232.0	39	.	.	.	.	.	.	.	.	.	.	.
245	29	7.550	536.0	74	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	THP	DIST	LKAREA	WSHEDA	YR	MONTH	DAY
246	CARO LAKE	4906	8858	2AC08	UNORGANIZED	23	.	.	79	8	29
247	CARRE LAKE	4918	9035	5QA08	UNORGANIZED	25	328.6	.	81	6	9
248	CASTLE LAKE	5007	8852	2AD09		23	626.0	.	80	5	1
249	CASTLEBAR LAKE	4949	8603	4JD04		22	880.0	8020.0	79	7	1
250	CATLONITE LAKE	4911	8700	4JD15	UNORGANIZED	24	326.4	.	81	6	4
251	CAVERN LAKE	4850	8840	2AC14	DORION	25	23.1	.	79	8	22
252	CEDAR LAKE	4842	8548	2BB04		24	452.0	15273.0	79	5	1
253	CHAMBERS LAKE	4826	9019	2AB11	UNORGANIZED	25	.	.	80	7	11
254	CHARON LAKE	4937	8600	4JD06	UNORGANIZED	22	304.9	.	81	7	8
255	CHEESEMAN LAKE	4927	8920	2AD05	UNORGANIZED	25	1060.3	.	81	6	30
256	CHILL LAKE	4908	9101	5PB18	UNORGANIZED	21	.	.	81	7	23
257	CHORUS LAKE	4915	8709	2BA05	UNORGANIZED	24	228.5	.	81	6	4
258	CHOWDER LAKE	4947	8547	4JD12	UNORGANIZED	22	263.6	.	81	7	8
259	CHUB LAKE (NL)	4816	8934	2AB01	SCOBLE	25	.	.	80	7	14
260	CIRRUS LAKE	4837	9155	5PA02	(UNORGANIZED)	21	2114.9	.	78	7	.
261	CIRRUS LAKE	4855	8609	2BB01	UNORGANIZED	24	318.3	.	81	6	17
262	CITELLUS LAKE	4920	8614	2BB08	UNORGANIZED	24	.	.	81	7	21
263	CLEARWATER WEST LAKE	4900	9157	5PB10	(UNORGANIZED)	21	3612.6	.	78	7	.
264	CLIFF LAKE	4903	8847	2AC14	UNORGANIZED	23	42.9	.	79	8	27
265	CLOUD LAKE	4808	8932	2AA01	CROOKS	25	421.2	.	81	7	23
266	CLOUTIER LAKE	4905	8734	2EA05	UNORGANIZED	24	.	.	81	6	4
267	CLUB LAKE	4956	8609	4JD04	O'MEARA	22	247.1	.	84	2	21
268	COLLATON LAKE	5041	8900	4GB12	UNORGANIZED	23	.	.	80	7	22
269	COLLINS LAKE	5016	8925	2AD09	UNORGANIZED	23	886.1	.	80	6	22
270	COMPANION LAKE	4854	9114	5PB18		21	540.0	4340.0	82	10	28

OBS	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
246	7.050	460.0	78.0	.	.	.	.	.	.	.	.	.	.	.
247	6.880	180.0	29.0	.	.	.	.	.	.	.	.	.	.	.
248	.	584.0	71.0	5.0	.	.	10.0	1.00	1.30	0.56	3.40	.	.	.
249	8.000	19999.8	199.0	15.0	.	.	30.0	6.00	1.30	0.40	0.50	0.030	0.030	0.080
250	7.120	368.0	67.0	.	.	.	.	.	.	.	.	.	.	.
251	7.750	1260.0	131.0	.	.	.	.	.	.	.	.	.	.	.
252	7.800	19999.8	126.0	5.0	.	.	14.0	12.00	1.70	1.00	2.20	.	.	0.050
253	6.900	172.0	35.0	.	.	.	.	.	.	.	.	.	.	.
254	7.780	1442.0	164.0	.	.	.	.	.	.	.	.	.	.	.
255	6.820	324.0	45.0	.	.	.	.	.	.	.	.	.	.	.
256	6.400	94.0	22.0	.	.	.	.	.	.	.	.	.	.	.
257	7.340	460.0	66.0	.	.	.	.	.	.	.	.	.	.	.
258	7.920	1464.0	174.0	.	.	.	.	.	.	.	.	.	.	.
259	7.350	316.0	51.0	.	.	.	.	.	.	.	.	.	.	.
260	6.410	94.2	18.0	.	.	.	.	.	.	.	.	.	.	.
261	6.970	290.0	29.0	.	.	.	.	.	.	.	.	.	.	.
262	7.580	566.0	71.0	.	.	.	.	.	.	.	.	.	.	.
263	6.840	153.0	22.0	.	.	.	.	.	.	.	.	.	.	.
264	7.250	728.0	81.0	.	.	.	.	.	.	.	.	.	.	.
265	6.880	416.0	68.0	.	.	.	.	.	.	.	.	.	.	.
266	6.300	28.0	13.0	.	.	.	.	.	.	.	.	.	.	.
267	8.070	2002.0	200.0	53.0	.	11.4	30.2	5.90	0.70	0.52	2.71	0.004	0.000	.
268	7.090	242.0	34.0	.	.	.	.	.	.	.	.	.	.	.
269	7.050	200.0	29.0	.	.	.	.	.	.	.	.	.	.	.
270	6.760	154.2	31.0	59.0	.	.	3.6	0.99	0.63	0.43	2.55	0.040	0.035	0.150

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
271	CONCORD LAKE	4929	8633	2BB01	UNORGANIZED	22	.	.	80	6
272	CORNISH LAKE	4913	8634	2BB08	UNORGANIZED	24	168.0	.	80	6
273	COSGRAVE LAKE	4914	8756	2AE02	UNORGANIZED	23	601.6	.	81	7
274	COUBRAN LAKE	4851	8628	2B		25	.	.	84	2
275	COWAN LAKE	4914	8942	2AD06	UNORGANIZED	25	.	.	81	7
276	CROOKED LAKE	4812	9149	5PA04		21	3216.3	.	81	5
277	CROOKED PINE LAKE	4847	9104	5PB22		21	1859.0	12320.0	82	10
278	CRYSTAL LAKE	4842	9117	5PA03		21	35.0	450.0	82	10
279	CUMMINS LAKE	4840	8915	2AB10	JACQUES	25	.	.	79	8
280	D'ORSONNENS LAKE	5054	8813	4GB13	UNORGANIZED	23	411.0	.	80	6
281	DARBY LAKE	4836	9208	5PB19		21	91.0	10003.0	80	5
282	DARKY LAKE	4818	9147	5PA04	(UNORGANIZED)	21	498.2	.	78	7
283	DASHWA LAKE	4856	9145	5PB17		21	1340.0	5300.0	82	10
284	DAVIES LAKE	5053	8957	4GC14	UNORGANIZED	23	.	.	81	6
285	DAWN LAKE	5058	8931	4GB09	UNORGANIZED	23	.	.	81	6
286	DAZZLE LAKE	5044	8837	4GB01	UNORGANIZED	23	.	.	80	7
287	DEAD OTTER LAKE	4853	8548	2BB05	UNORGANIZED	24	128.0	.	80	7
288	DECOURCEY LAKE	4859	8914	2AC10		25	720.0	1650.0	79	7
289	DEUTZIA LAKE	4911	8647	2BA01	UNORGANIZED	24	.	.	81	6
290	DEWY LAKE	5038	8837	2AD11	UNORGANIZED	23	.	.	80	7
291	DEXTER LAKE	4848	9000	5PB01		25	391.0	4628.0	80	3
292	DICKISON LAKE	4911	8719	4JD21	UNORGANIZED	24	596.2	.	81	6
293	DISRAELI LAKE	4907	8859	2AC10	UNORGANIZED	23	445.1	.	80	7
294	DOG LAKE	4846	8932	2AB06	(UNORGANIZED)	25	6613.5	78636.9	78	8
295	DOLLY LAKE (NL)	4917	8531	4JD08		24	18.9	.	84	2

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
271	4	7.400	598.0	89.0	.	.	.	.	.	.	.	.	.	.	.
272	4	7.410	626.0	100.0	.	.	.	.	.	.	.	.	.	.	.
273	21	6.980	232.0	39.0	.	.	.	.	.	.	.	.	.	.	.
274	22	6.731	69.8	31.8	10.0	.	3.1	3.4	0.60	0.60	0.22	6.63	0.058	0.004	.
275	14	6.890	270.0	38.0	.	.	.	.	.	.	.	.	.	.	.
276	29	7.380	315.0	55.0	.	.	.	.	.	.	.	5.00	.	.	.
277	27	7.400	370.6	53.0	25.0	.	.	7.4	1.30	0.72	0.53	3.50	0.010	0.065	0.110
278	27	7.040	154.4	31.0	7.0	.	.	2.6	0.96	0.93	0.69	3.33	0.010	0.005	0.016
279	20	6.400	142.0	38.0	.	.	.	.	.	.	.	.	.	.	.
280	19	7.990	1536.0	119.0	.	.	.	.	.	.	.	.	.	.	.
281	13	6.480	70.2	24.0	30.0	.	.	3.0	1.00	0.96	0.70	2.89	0.150	0.034	0.560
282	.	6.610	82.4	18.0	.	.	.	.	.	.	.	.	.	.	.
283	28	6.800	104.4	24.0	17.0	.	.	2.1	0.68	0.57	0.48	3.00	0.020	0.009	0.073
284	25	7.370	726.0	85.0	.	.	.	.	.	.	.	.	.	.	.
285	25	7.320	780.0	90.0	.	.	.	.	.	.	.	.	.	.	.
286	22	8.280	1386.0	114.0	.	.	.	.	.	.	.	.	.	.	.
287	9	7.650	894.0	73.0	.	.	.	.	.	.	.	.	.	.	.
288	25	7.200	19999.8	54.0	20.0	.	.	6.0	2.00	0.80	0.50	2.70	.	.	.
289	4	7.110	438.0	68.0	.	.	.	.	.	.	.	.	.	.	.
290	22	8.450	1898.0	169.0	.	.	.	.	.	.	.	.	.	.	.
291	1	6.570	276.2	48.0	70.0	.	.	5.0	2.00	1.20	0.88	3.80	0.010	0.010	0.420
292	4	6.650	124.0	35.0	.	.	.	.	.	.	.	.	.	.	.
293	23	8.000	1422.0	168.0	.	.	.	.	.	.	.	.	.	.	.
294	.	7.410	239.0	.	.	.	.	.	.	.	.	.	.	.	.
295	16	7.960	2654.0	259.0	29.5	.	7.4	39.0	8.86	0.65	0.58	3.67	0.095	0.012	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
296	DORA LAKE	4922	9010	2AD24	UNORGANIZED	25	.	.	81	6
297	DRIFT LAKE	4841	9004	2AB05		25	145.0	6581	80	3
298	DUFF LAKE	4829	9229	5PB20		21	139.0	708	81	7
299	DUMBELL LAKE	5005	8657	4JF03		22	67.0	.	84	2
300	DUNC LAKE	4843	8542	2BB04	LABERGE	24	227.8	.	78	8
301	EABAMET LAKE	5132	8746	4GC02	UNORGANIZED	22	10302.5	.	80	6
302	EAGLEHEAD LAKE	4902	8912	2AC10		25	1400.0	32620	80	5
303	EAST JINX LAKE (NL)	4814	8953	2AB03	LYBSTER	25	3.1	.	80	7
304	EAST PENNOCK LAKE (NL)	4822	8955	2AB11	ALDINA	25	4.9	.	80	7
305	EDMONDSON LAKE	4856	8915	2AC10		25	269.0	4719	81	10
306	ELBOW LAKE (HUNTER'S)	4841	8844	2AC07	MCTAVISH	25	16.2	.	80	8
307	ELEPH LAKE	4915	8958	2AB07	UNORGANIZED	25	.	.	80	8
308	ELEVATION LAKE	4820	9052	5PA05		25	107.0	1619	80	10
309	ELI LAKE (NL)	5013	8635	4JE01	NETTLETON	22	76.6	.	84	2
310	ERMINE LAKE	4928	9033	4GB04	UNORGANIZED	25	.	.	81	6
311	ESNAGAMI LAKE	5019	8650	4JF12	ESNAGAMI	22	7234.6	.	80	6
312	EVA LAKE	4843	9110	5PA03	(UNORGANIZED)	21	1709.1	.	78	7
313	EVELYN LAKE	4904	8857	2AC08	UNORGANIZED	23	.	.	80	7
314	EVEREST LAKE	4917	8554	2BB09	UNORGANIZED	24	182.1	.	80	6
315	EVONYMUS LAKE	4925	8641	2BA01	UNORGANIZED	22	256.4	.	81	7
316	EYE LAKE	4852	9144	5PB21		21	1310.0	12130	82	10
317	FACTOR LAKE	4842	9203	5PB19	(UNORGANIZED)	21	630.2	.	78	8
318	FAKELOO LAKE	4915	8610	2BB08	UNORGANIZED	24	.	.	81	7
319	FALCON LAKE	5028	8804	4JF19	UNORGANIZED	23	.	.	80	7
320	FALL LAKE	4848	8838	2AC07	DORION	25	13.0	.	79	8

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
296	9	7.130	264.0	34.0	.	.	.	.	.	.	.	.	.	.	.
297	1	6.810	252.4	44.0	70.0	.	.	6.0	1.00	1.20	0.88	3.65	0.011	0.015	0.570
298	14	6.440	143.6	31.0	38.0	.	.	4.0	1.00	0.63	0.63	3.50	.	.	.
299	21	8.210	2366.0	228.0	6.0	.	5.1	35.6	6.16	0.50	0.48	1.09	0.000	0.004	.
300	.	7.790	652.0	.	.	.	.	.	.	.	.	.	.	.	.
301	23	7.510	754.0	58.0	.	.	.	.	.	.	.	.	.	.	.
302	17	6.900	19999.8	.	70.0	.	.	6.0	2.00	1.00	0.80	6.00	.	.	0.300
303	24	8.200	2932.0	382.0	.	.	.	.	.	.	.	.	.	.	.
304	11	7.000	206.0	35.0	.	.	.	.	.	.	.	.	.	.	.
305	15	6.830	217.0	52.0	92.0	.	.	5.0	1.00	2.10	0.83	3.60	.	.	.
306	5	7.200	224.0	34.0	.	.	.	.	.	.	.	.	.	.	.
307	26	7.950	1494.0	165.0	.	.	.	.	.	.	.	.	.	.	.
308	1	6.670	74.8	23.0	22.0	.	.	2.0	1.00	0.68	0.31	3.20	0.033	0.018	0.050
309	21	7.990	1784.0	179.0	65.5	.	14.6	27.4	6.00	0.70	0.48	2.29	0.008	0.060	.
310	9	7.200	322.0	42.0	.	.	.	.	.	.	.	.	.	.	.
311	23	7.980	1420.0	114.0	.	.	.	.	.	.	.	.	.	.	.
312	.	6.820	167.0	33.0	.	.	.	.	.	.	.	.	.	.	.
313	23	7.850	884.0	111.0	.	.	.	.	.	.	.	.	.	.	.
314	4	7.300	592.0	83.0	.	.	.	.	.	.	.	.	.	.	.
315	8	8.010	1740.0	175.0	.	.	.	.	.	.	.	.	.	.	.
316	28	6.680	97.0	25.0	65.0	.	.	1.8	0.53	0.67	0.51	2.72	0.050	0.019	0.320
317	.	6.900	163.0	.	.	.	.	.	.	.	.	.	.	.	.
318	21	7.450	882.0	108.0	.	.	.	.	.	.	.	.	.	.	.
319	23	7.360	336.0	44.0	.	.	.	.	.	.	.	.	.	.	.
320	21	7.200	288.0	47.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH	DAY
321	FALLINGSNOW LAKE	4808	8947	2AA02		25	170.0	650.0	80	10	6
322	FAR LAKE	4841	9012	2AB05	(UNORGANIZED)	25	115.8	.	78	7	.
323	FELIX LAKE	4914	8707	4J001		24	66.1	.	84	2	22
324	FICHT LAKE	5111	8850	4GD18	UNORGANIZED	22	482.4	.	80	7	22
325	FIELDS LAKE	4918	8522	4JC10		24	162.8	.	84	2	16
326	FINLAYSON LAKE	4855	9134	5PB18	(UNORGANIZED)	21	1436.1	.	78	7	.
327	FINLAYSON LAKE	4934	8703	4JD02	SALSBERG	22	125.2	.	84	2	22
328	FISHTRAP LAKE	5221	8624	4FB07	UNORGANIZED	22	.	.	80	6	23
329	FITZPATRICK LAKE	4915	8721	4JD20		24	40.5	.	84	2	22
330	FLANDERS LAKE	4921	8523	4JC10		24	238.1	.	84	2	16
331	FLATROCK LAKE	4818	9013	5PA07	UNORGANIZED	25	321.0	.	81	7	2
332	FLEMING LAKE	5007	8656	4JF25	EXTON	22	1809.5	.	80	6	21
333	FLICKER LAKE	4906	8720	4JD01		24	134.8	.	84	2	22
334	FLYNNE LAKE	4948	8543	4JD06		22	73.9	.	84	2	21
335	FOAM LAKE	4914	8745	2AE03	UNORGANIZED	23	.	.	81	7	21
336	FORBES LAKE	4904	8851	2AC14	UNORGANIZED	23	10.3	.	80	7	18
337	FORSBERG LAKE	4855	9142	5PB21		21	210.0	750.0	82	10	28
338	FOTHERINGHAM LAKE	4850	9131	5PB18	SCHWENGER	21	40.3	.	78	7	.
339	FOUNTAIN LAKE	4832	9040	5PA05	MOSS	25	.	.	81	7	23
340	FOXTRAP LAKE	4856	8641	2BA01	UNORGANIZED	24	194.8	.	80	6	4
341	FRAN LAKE	4929	8509	4JC02	FRANCES	24	.	.	81	7	8
342	FRANK LAKE	5010	8753	2AD14	UNORGANIZED	23	482.1	.	80	7	23
343	FRENCH LAKE	4840	9109	5PA03		21	340.0	51430.0	80	2	19
344	FULLERTON LAKE	4956	8725	4JF26	UNORGANIZED	23	718.9	.	80	6	19
345	GALL LAKE	4914	8959	2AB07	UNORGANIZED	25	.	.	80	8	26

OBS	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
321	7.200	210.2	42.0	11.0	.	.	4.0	2.00	0.87	0.64	5.60	0.008	0.001	0.042
322	7.140	283.0	41.0	.	.	.	.	.	.	.	.	.	.	.
323	7.480	896.0	99.6	54.5	.	13.3	14.7	3.36	0.56	0.50	3.78	0.048	0.006	.
324	8.130	1018.0	118.0	.	.	.	.	.	.	.	.	.	.	.
325	7.920	2104.0	209.0	35.5	.	9.2	30.8	7.36	0.55	0.58	3.71	0.009	0.004	.
326	7.220	275.0	43.0	.	.	.	.	.	.	.	.	.	.	.
327	8.030	1904.0	190.0	36.0	.	9.5	30.4	6.04	0.70	0.66	3.21	0.064	0.010	.
328	7.250	414.0	56.0	.	.	.	.	.	.	.	.	.	.	.
329	7.589	588.6	75.1	54.0	.	11.1	10.9	2.36	0.60	0.30	4.22	0.052	0.002	.
330	7.940	2126.0	211.0	50.5	.	.	31.1	7.40	0.55	0.56	3.95	0.011	0.005	.
331	6.600	146.0	33.0	.	.	.	.	.	.	.	.	.	.	.
332	7.920	1358.0	114.0	.	.	.	.	.	.	.	.	.	.	.
333	6.748	108.6	31.2	52.0	.	10.0	3.6	0.90	0.50	0.24	4.58	0.150	0.005	.
334	7.990	1594.0	178.0	70.0	.	14.4	23.7	5.26	3.40	0.24	2.66	0.006	0.004	.
335	7.320	546.0	72.0	.	.	.	.	.	.	.	.	.	.	.
336	7.800	1596.0	191.0	.	.	.	.	.	.	.	.	.	.	.
337	6.550	94.4	22.0	23.0	.	.	1.8	0.64	0.52	0.50	2.57	0.010	0.042	0.120
338	6.840	293.0	42.0	.	.	.	.	.	.	.	.	.	.	.
339	7.400	594.0	86.0	.	.	.	.	.	.	.	.	.	.	.
340	7.680	1096.0	98.0	.	.	.	.	.	.	.	.	.	.	.
341	7.980	1192.0	139.0	.	.	.	.	.	.	.	.	.	.	.
342	8.060	888.0	109.0	.	.	.	.	.	.	.	.	.	.	.
343	6.706	157.2	37.0	30.0	.	.	3.0	1.00	1.20	1.00	3.90	0.037	0.005	0.082
344	7.800	1018.0	96.0	.	.	.	.	.	.	.	.	.	.	.
345	8.100	1934.0	206.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH	DAY
346	GAMBLE LAKE	4909	9130	5PB17		21	760.0	3500.0	82	10	28
347	GARDEN LAKE	4932	8948	2AD24	UNORGANIZED	25	1805.2	.	81	7	14
348	GARHAM LAKE	4901	8529	2BB05	UNORGANIZED	24	673.4	.	80	6	4
349	GAUG LAKE	4909	8552	2BB07	LESLIE	24	36.0	.	81	7	21
350	GILLARD LAKE	4940	8958	2AD23	UNORGANIZED	25	.	.	81	7	14
351	GLORY LAKE	4856	8638	2BA06	UNORGANIZED	24	131.1	611.1	81	6	17
352	GOLDEN GATE LAKE	4853	8844	2AC14	GLEN	25	12.9	.	79	8	24
353	GOLDFIELD LAKE	4939	8704	4JD02	SALSBERG	22	181.4	.	84	2	22
354	GOLDSBOROUGH LAKE	5040	8920	4GB01	UNORGANIZED	23	948.8	.	80	8	9
355	GOODCHILD LAKE	4852	8612	2BB01	UNORGANIZED	24	.	.	80	6	4
356	GOODMAN LAKE	4836	8918	2AB10	GORHAM	25	.	.	80	7	8
357	GOODMORNING LAKES	4847	8842	2AC07	DORION	25	.	.	79	8	21
358	GOSLING LAKE	4949	9027	4GB04	UNORGANIZED	25	.	.	80	7	24
359	GRAHAM LAKE	4915	9034	5PB05	UNORGANIZED	25	.	.	81	6	9
360	GRANITE LAKE	5029	8946	4GB03	UNORGANIZED	23	1811.9	.	81	6	25
361	GRANT LAKE	4856	9154	5PB17	UNORGANIZED	21	.	.	81	7	2
362	GREENWATER LAKE	4834	9026	2AB04		25	3770.0	16250.0	80	10	1
363	GREENWICH LAKE	4848	8851	2AC14	UNORGANIZED	25	484.3	.	81	6	30
364	GREHAN LAKE	4929	8637	2BA01	UNORGANIZED	22	232.4	.	81	7	8
365	GULL LAKES	4916	8950	2AD06	UNORGANIZED	25	.	.	81	7	14
366	GULLIVER LAKE	4910	9119	5QA06		21	1532.0	6677.0	82	10	28
367	GUNTER LAKE	4954	8951	4GB04	UNORGANIZED	25	212.4	.	80	7	24
368	GUTTERIDGE LAKE	4857	8926	2AB06	UNORGANIZED	25	.	.	81	7	14
369	GZOWSKI LAKE	5015	8732	2AD16	GZOWSKI	23	.	.	80	7	23
370	HALL LAKE	4908	8734	2AE05	UNORGANIZED	24	.	.	81	6	4

OBS	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
346	6.69	81.2	21.0	13.0	.	.	1.7	0.59	0.47	0.37	3.46	0.010	0.015	0.028
347	6.98	384.0	55.0	.	.	.	.	.	.	.	.	.	.	.
348	7.80	924.0	111.0	.	.	.	.	.	.	.	.	.	.	.
349	7.25	530.0	74.0	.	.	.	.	.	.	.	.	.	.	.
350	6.74	206.0	31.0	.	.	.	.	.	.	.	.	.	.	.
351	7.21	226.0	35.0	.	.	.	.	.	.	.	.	.	.	.
352	8.25	3312.0	318.0	.	.	.	.	.	.	.	.	.	.	.
353	7.76	1862.0	186.0	46.0	.	11.9	30.5	5.52	0.70	0.62	3.24	0.200	0.027	.
354	7.20	212.0	36.0	.	.	.	.	.	.	.	.	.	.	.
355	7.60	866.0	87.0	.	.	.	.	.	.	.	.	.	.	.
356	7.20	380.0	55.0	.	.	.	.	.	.	.	.	.	.	.
357	8.05	686.0	83.0	.	.	.	.	.	.	.	.	.	.	.
358	6.65	108.0	22.0	.	.	.	.	.	.	.	.	.	.	.
359	6.62	254.0	42.0	.	.	.	.	.	.	.	.	.	.	.
360	6.87	188.0	30.0	.	.	.	.	.	.	.	.	.	.	.
361	6.52	102.0	25.0	.	.	.	.	.	.	.	.	.	.	.
362	7.64	466.4	64.0	12.0	.	.	8.0	1.00	0.81	0.63	3.10	0.011	0.003	0.050
363	6.35	120.0	25.0	.	.	.	.	.	.	.	.	.	.	.
364	8.38	2256.0	202.0	.	.	.	.	.	.	.	.	.	.	.
365	6.81	328.0	54.0	.	.	.	.	.	.	.	.	.	.	.
366	6.74	94.8	23.0	22.0	.	.	2.0	0.67	0.74	0.38	2.98	0.020	0.009	0.043
367	6.32	120.0	24.0	.	.	.	.	.	.	.	.	.	.	.
368	6.57	200.0	37.0	.	.	.	.	.	.	.	.	.	.	.
369	7.31	834.0	109.0	.	.	.	.	.	.	.	.	.	.	.
370	5.58	14.0	22.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH	DAY
371	HANDLEY LAKE	4923	8920	2AD05		25	115.0	1952.0	80	7	15
372	HANSON LAKE	4911	8805	2AE02	UNORGANIZED	23	.	.	81	6	4
373	HARDTACK LAKE	4856	9138	5PB21		21	320.0	2590.0	82	10	28
374	HARP LAKE	4953	8616	4JD01	O'HEARA	22	47.1	.	84	2	21
375	HARTLEY LAKE (NL)	4928	8709	4JD19		22	6.0	.	84	2	27
376	HAVOC LAKE	4953	8903	2AD08	UNORGANIZED	23	468.9	.	80	7	18
377	HAWKEYE LAKE	4841	8927	2AB06		25	433.0	15537.0	80	10	1
378	HAZELWOOD LAKE	4835	8919	2AB10		25	326.0	5926.0	80	10	1
379	HENDERSON LAKE	4904	8850	2AC14	UNORGANIZED	23	.	.	80	7	18
380	HICKS LAKE	4849	8905	2AB06		25	238.0	3634.0	81	10	15
381	HOGARTH LAKE	4908	9025	5PB05	HOGARTH	25	347.9	.	81	6	9
382	HOLLINGSWORTH LAKE	5035	8858	4GB11	UNORGANIZED	23	602.4	.	80	6	20
383	HOOD LAKE	4829	9039	5PA05		25	150.0	750.0	80	10	7
384	HOOF LAKE	4828	9022	2AB11	UNORGANIZED	25	.	.	80	7	11
385	HORSESHOE LAKE (NL)	4916	8525	4JC04		24	17.8	.	84	2	16
386	HORSETAIL LAKE	5019	8757	2AD14	UNORGANIZED	23	.	.	81	6	22
387	HOWCUM LAKE	4840	8918	2AB06	JACQUES	25	.	.	79	8	13
388	HURONIAN LAKE	4841	9047	2AB12		25	380.0	1490.0	80	10	1
389	HUTCHISON LAKE	4947	8657	4JD17	FULFORD	22	215.5	.	80	6	21
390	ICARUS LAKE	4813	9034	5PA07		25	820.0	11640.0	80	10	1
391	ICE LAKE	4910	8527	2BB06	HERBERT	24	60.7	.	80	6	4
392	ICICLE LAKE	4924	8702	4JD01		22	80.2	.	84	2	22
393	ICY LAKE	4850	9132	5PB18	SCHWENGER	21	96.1	.	78	7	.
394	INWOOD LAKE	4901	9027	5PB24	INWOOD	25	9.7	.	78	8	.
395	IRON RANGE LAKE	4811	9020	2AA03	UNORGANIZED	25	233.2	1741.3	81	7	23

OBS	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
371	7.650	545.0	72.0	40.0	.	.	9.0	3.00	1.30	0.69	.	.	.	.
372	6.870	210.0	47.0	.	.	.	.	.	.	.	.	.	.	.
373	6.680	94.4	23.0	27.0	.	.	2.4	0.57	0.46	0.41	3.16	0.030	0.022	0.080
374	8.260	2774.0	268.0	2.5	.	2.5	38.7	8.80	1.05	0.62	3.69	0.002	0.003	.
375	8.280	2188.0	214.0	7.0	.	4.8	33.0	6.42	0.50	0.78	2.13	0.005	0.000	.
376	8.600	1796.0	302.0	.	.	.	.	.	.	.	.	.	.	.
377	7.210	281.8	48.0	39.0	.	.	7.0	2.00	0.91	0.50	3.60	0.030	0.009	0.077
378	7.090	216.4	44.0	68.0	.	.	5.0	2.00	0.97	0.52	4.40	0.043	0.018	0.370
379	.	1178.0	136.0	.	.	.	.	.	.	.	.	.	.	.
380	7.080	238.6	58.0	89.0	.	.	5.0	2.00	2.20	0.51	3.90	.	.	.
381	7.250	556.0	73.0	.	.	.	.	.	.	.	.	.	.	.
382	7.350	206.0	28.0	.	.	.	.	.	.	.	.	.	.	.
383	6.700	121.0	30.0	60.0	.	.	2.0	2.00	0.68	0.51	3.50	0.053	0.032	0.300
384	7.000	284.0	44.0	.	.	.	.	.	.	.	.	.	.	.
385	7.720	2116.0	210.0	50.5	.	10.0	30.8	7.60	0.60	0.50	3.52	0.015	0.003	.
386	7.550	1196.0	111.0	.	.	.	.	.	.	.	.	.	.	.
387	5.800	6.0	32.0	.	.	.	.	.	.	.	.	.	.	.
388	6.750	77.6	28.0	14.0	.	.	2.0	1.00	1.40	0.40	2.80	0.026	0.011	0.050
389	8.100	1618.0	148.0	.	.	.	.	.	.	.	.	.	.	.
390	7.300	254.0	40.0	20.0	.	.	5.0	3.00	0.84	0.62	2.20	0.005	0.023	0.070
391	8.200	2544.0	211.0	.	.	.	.	.	.	.	.	.	.	.
392	7.300	906.0	96.7	68.0	.	12.8	14.3	3.34	0.56	0.62	3.44	0.051	0.003	.
393	7.680	1070.0	136.0	.	.	.	.	.	.	.	.	.	.	.
394	5.190	30.6	.	.	.	.	.	.	.	.	.	.	.	.
395	7.870	906.0	122.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
396	ISLINGTON LAKE	4909	8639	2BA06	UNORGANIZED	24	121.9	.	81	6
397	JACKFISH LAKE	4850	8657	2BA05	SYINE	24	115.7	.	78	8
398	JASON LAKE	4851	8721	2BA03	KILLRAINE	24	55.0	.	78	8
399	JESSIE LAKE	4912	8821	2AD01	PURDOM	23	935.9	.	81	6
400	JINX LAKE	4950	8508	4JD07	CLAVET	22	71.3	.	84	2
401	JOE LAKE	4851	9203	5PB18	TANNER	21	.	.	81	7
402	JOHNNY LAKE (NL)	5017	8703	4JF12	RUPERT	22	11.5	.	84	2
403	JOLLY LAKE	4910	8927	2AD04	UNORGANIZED	25	96.9	.	80	8
404	JUNGFRAU LAKE	5039	8646	4JF15	UNORGANIZED	22	471.3	.	80	6
405	JUNIOR LAKE	5025	8751	4JF20	UNORGANIZED	23	.	.	80	7
406	KABAIGON LAKE	4840	9015	2AB04	(UNORGANIZED)	25	137.8	.	78	7
407	KAMIKAU LAKE	4819	9019	5PA07		25	190.0	840.0	80	10
408	KASSAGAMINI LAKE	4943	8553	4JD06		22	242.2	.	84	2
409	KAWENE LAKE	4845	9113	5PA05		21	90.0	340.0	80	10
410	KAWESAQUA LAKE (NL)	4917	8707	4JD01		22	40.5	.	84	2
411	KECKUSH LAKE	4857	9115	5PB18	(UNORGANIZED)	21	136.9	.	78	7
412	KEGHUS LAKE	4827	9016	2AB11	UNORGANIZED	25	39.7	.	80	7
413	KENOGAMISIS LAKE	4942	8653	4JD18	(UNORGANIZED)	22	4168.4	.	78	8
414	KENOJI LAKE	5044	8937	4GB01	UNORGANIZED	23	983.9	.	81	6
415	KENTRON LAKE	4911	8627	2BB08	UNORGANIZED	24	.	.	80	6
416	KERSHAW LAKE	4950	8952	4GB04	UNORGANIZED	25	228.7	.	81	6
417	KETCHIKAN LAKE	5022	8754	2AD14	UNORGANIZED	23	.	.	80	7
418	KETCHUP LAKE	4853	8535	2BC01	UNSURVEYED	24	63.2	.	85	2
419	KILLALA LAKE	4905	8632	2BA06	UNORGANIZED	24	2394.5	15835.1	80	6
420	KINGFISHER LAKE	4839	8904	2AB10		25	60.0	223.0	80	3

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
396	11	7.640	1128.0	143.0	.	.	.	.	.	.	.	.	.	.	.
397	.	7.310	540.0	.	.	.	.	.	.	.	.	.	.	.	.
398	.	6.210	56.4	.	.	.	.	.	.	.	.	.	.	.	.
399	4	7.950	1256.0	174.0	.	.	.	.	.	.	.	.	.	.	.
400	16	7.630	2098.0	208.0	65.0	.	15.9	30.7	7.20	0.85	0.84	2.77	0.006	0.029	.
401	2	6.680	126.0	27.0	.	.	.	.	.	.	.	.	.	.	.
402	21	7.980	1430.0	140.0	7.0	.	4.7	20.6	4.16	0.60	0.48	1.10	0.008	0.005	.
403	6	7.600	548.0	68.0	.	.	.	.	.	.	.	.	.	.	.
404	19	7.640	1000.0	127.0	.	.	.	.	.	.	.	.	.	.	.
405	23	7.550	616.0	45.0	.	.	.	.	.	.	.	.	.	.	.
406	.	7.610	620.0	73.0	.	.	.	.	.	.	.	.	.	.	.
407	1	6.940	132.4	28.0	25.0	.	.	4.0	4.00	0.76	0.24	2.20	0.024	0.029	0.13
408	29	7.870	1734.0	173.0	55.0	.	13.2	26.6	5.94	0.66	0.84	2.65	0.016	0.004	.
409	1	6.750	151.0	31.0	67.0	.	.	3.0	2.00	0.99	0.92	1.50	0.033	0.060	0.63
410	22	7.290	726.0	80.9	62.5	.	13.2	11.7	2.70	0.70	0.36	4.21	0.063	0.008	.
411	.	6.600	157.0	28.0	.	.	.	.	.	.	.	.	.	.	.
412	10	6.300	82.0	24.0	.	.	.	.	.	.	.	.	.	.	.
413	.	7.750	1070.0	.	.	.	.	.	.	.	.	.	.	.	.
414	25	6.870	252.0	25.0	.	.	.	.	.	.	.	.	.	.	.
415	4	7.060	326.0	52.0	.	.	.	.	.	.	.	.	.	.	.
416	30	6.370	122.0	22.0	.	.	.	.	.	.	.	.	.	.	.
417	23	7.850	916.0	112.0	.	.	.	.	.	.	.	.	.	.	.
418	18	7.373	1459.8	152.0	.	52.5	11.1	24.2	5.75	0.60	0.32	3.15	0.004	0.011	.
419	4	7.680	884.0	123.0	.	.	.	.	.	.	.	.	.	.	.
420	1	6.870	276.0	47.0	30.0	.	.	5.0	1.00	0.80	0.47	4.20	0.019	0.007	0.12

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
421	KLOTZ LAKE	4948	8552	4JD12	(UNORGANIZED)	22	830.7	.	78	8
422	KOANDOWANGO LAKE	4936	8608	4JD06	UNORGANIZED	22	.	.	81	7
423	KOSS LAKE	4819	9033	5PA07		25	373.0	.	80	10
424	LAC DES ILES	4912	8937	2AB07		25	2080.0	12390.0	79	10
425	LAC DES MILLE LACS	4850	9030	5PB24		25	25390.0	.	80	10
426	LAKE JEAN	4923	8753	2AD22	UNORGANIZED	23	1271.7	.	81	6
427	LAKE 12 (NL)	4904	8856	2AC08	UNORGANIZED	23	.	.	80	7
428	LAKE 15 (NL)	4843	9014	2AB12	UNORGANIZED	25	35.0	.	80	4
429	LAKE 22 (NL)	4812	9026	5PA07	UNORGANIZED	25	.	.	79	8
430	LAKE 23 (NL)	4812	9026	5PA07	UNORGANIZED	25	.	.	79	8
431	LAKE 24 (NL)	4813	9027	5PA07	UNORGANIZED	25	.	.	79	8
432	LAKE 25 (NL)	4839	9019	2AB04	HAINES	25	.	.	80	4
433	LAKE 27 (NL)	4839	9021	2AB04	HAINES	25	.	.	80	4
434	LAKE 41 (NL)	4839	9031	2AB12	UNORGANIZED	25	.	.	80	7
435	LAKE 42 (NL)	4839	9028	2AB04	UNORGANIZED	25	.	.	80	7
436	LAKE 43 (NL)	4915	9031	5PB05	UNORGANIZED	25	.	.	80	8
437	LAKE 44 (NL)	4915	9029	5PB05	UNORGANIZED	25	.	.	80	8
438	LAKE 45 (NL)	4919	9015	4GB05	UNORGANIZED	25	.	.	80	8
439	LAKE 5 (NL)	4827	9035	5PA07	UNORGANIZED	25	.	.	80	7
440	LEACH LAKE	4908	9106	5QA08	UNORGANIZED	21	.	.	81	7
441	LECKIE LAKE	4903	8858	2AC08	UNORGANIZED	23	.	.	81	6
442	LEGRIS LAKE	4908	8928	2AD04	UNORGANIZED	25	352.7	.	81	7
443	LEIGH LAKE	4954	8947	2AD10	UNORGANIZED	25	.	.	80	7
444	LEROME LAKE	4844	9144	5PB18		21	290.0	1830.0	79	6
445	LIGHT LAKE	4857	9119	5PB18		21	250.0	4470.0	82	10

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
421	.	7.800	1470.0	.	.	.	.	.	.	.	.	.	.	.	.
422	8	8.080	2302.0	250.0	.	.	.	.	.	.	.	.	.	.	.
423	1	6.820	165.6	35.0	98.0	.	.	7.0	1.00	0.88	0.32	3.00	0.079	0.016	0.340
424	1	7.200	405.6	52.0	30.0	.	.	6.0	5.00	0.82	0.31	1.90	0.036	0.018	0.130
425	1	7.460	333.8	50.0	63.0	.	.	6.0	2.00	1.00	0.57	2.10	0.049	0.015	0.250
426	22	6.970	372.0	57.0	.	.	.	.	.	.	.	.	.	.	.
427	23	7.700	886.0	111.0	.	.	.	.	.	.	.	.	.	.	.
428	28	7.150	208.0	30.0	.	.	.	.	.	.	.	.	.	.	.
429	2	6.650	164.0	45.0	.	.	.	.	.	.	.	.	.	.	.
430	2	6.400	294.0	47.0	.	.	.	.	.	.	.	.	.	.	.
431	1	5.900	130.0	45.0	.	.	.	.	.	.	.	.	.	.	.
432	28	6.950	374.0	53.0	.	.	.	.	.	.	.	.	.	.	.
433	28	6.750	218.0	37.0	.	.	.	.	.	.	.	.	.	.	.
434	28	7.400	582.0	106.0	.	.	.	.	.	.	.	.	.	.	.
435	28	6.400	78.0	87.0	.	.	.	.	.	.	.	.	.	.	.
436	26	6.450	134.0	26.0	.	.	.	.	.	.	.	.	.	.	.
437	26	6.200	54.0	17.0	.	.	.	.	.	.	.	.	.	.	.
438	26	6.050	20.0	88.0	.	.	.	.	.	.	.	.	.	.	.
439	10	6.350	138.0	31.0	.	.	.	.	.	.	.	.	.	.	.
440	23	6.320	88.0	27.0	.	.	.	.	.	.	.	.	.	.	.
441	4	7.620	696.0	97.0	.	.	.	.	.	.	.	.	.	.	.
442	14	7.130	464.0	63.0	.	.	.	.	.	.	.	.	.	.	.
443	24	6.630	168.0	30.0	.	.	.	.	.	.	.	.	.	.	.
444	1	7.200	260.0	38.2	30.0	.	.	5.0	0.75	1.05	0.80	2.00	0.083	0.023	0.200
445	28	6.810	175.6	35.0	67.0	.	.	4.5	0.86	0.87	0.50	3.69	0.040	0.034	0.370

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
446	LIME LAKE	4914	8915	2AD04	UNORGANIZED	25	.	.	80	3
447	LINDGREN LAKE	4831	9221	5PA02	UNORGANIZED	21	.	.	81	7
448	LINKLATER LAKE	5033	8848	2AD11	UNORGANIZED	23	.	.	80	7
449	LITTLE ATHELSTANE LAKE	4845	9015	2AB12	(UNORGANIZED)	25	225.2	.	78	8
450	LITTLE BICKNELL LAKE	4949	8539	4JD07		22	71.5	.	84	2
451	LITTLE DOG LAKE	4839	8936	2AB01	FOWLER	25	91.8	.	79	8
452	LITTLE GULL LAKE	4905	9136	5PB17		21	351.0	18360.0	82	10
453	LITTLE GULL LAKE	4815	9009	2AA03	JEAN	25	.	.	81	7
454	LITTLE KABAIGON LAKE	4840	9018	2AB04	HAINES	25	.	.	80	8
455	LITTLE MCCAULAY LAKE	4844	9154	5PB18	(UNORGANIZED)	21	81.8	.	78	7
456	LITTLE MORAINE LAKE	4901	8850	2AC19		25	350.0	1420.0	79	10
457	LITTLE PIC LAKE	4922	8638	2BA06	UNORGANIZED	22	120.3	3001.6	81	7
458	LITTLE SANTOY LAKE	4849	8655	2BA01	SYINE	24	122.1	.	80	7
459	LITTLE STONE LAKE	5034	8740	4JF18	UNORGANIZED	23	.	.	80	6
460	LIVER LAKE	4912	8725	2AD19	UNORGANIZED	24	.	.	81	6
461	LIZARD LAKE	4858	9121	5PB18		21	170.0	5650.0	79	6
462	LOCH ERNE	4837	9021	2AB04		25	166.0	1215.0	80	3
463	LOCH LOMOND	4815	8920	2AA01		25	2060.0	9910.0	80	3
464	LOKEN LAKE	4913	8537	2BB02	NICKLE	24	117.5	.	80	6
465	LOOKOUT LAKE	5004	8954	4GB07	UNORGANIZED	23	.	.	80	7
466	LOON LAKE	4838	8846	2AC07		25	219.0	2251.0	81	1
467	LOST LAKE	4843	8843	2AC07	MCTAVISH	25	2.6	.	81	3
468	LOUIS LAKE	4854	8615	2BB01	UNORGANIZED	24	.	.	81	6
469	LOUISA LAKE	4809	9119	5PA05		21	750.0	4320.0	80	2
470	LOWER ROSS LAKE	4854	8720	2B		25	.	.	84	2

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
446	25	7.000	1178.0	259.0	.	.	.	.	.	.	.	.	.	.	.
447	2	5.680	22.0	20.0	.	.	.	.	.	.	.	.	.	.	.
448	22	7.060	446.0	57.0	.	.	.	.	.	.	.	.	.	.	.
449	.	7.430	275.0	.	.	.	.	.	.	.	.	.	.	.	.
450	29	7.740	2004.0	198.0	51.5	.	13.0	29.9	7.16	0.96	0.28	2.93	0.011	0.025	.
451	20	7.400	438.0	55.0	.	.	.	.	.	.	.	.	.	.	.
452	28	6.750	110.8	24.0	17.0	.	.	2.2	0.62	0.69	0.38	2.89	0.020	0.009	0.039
453	2	6.930	350.0	52.0	.	.	.	.	.	.	.	.	.	.	.
454	4	7.150	318.0	75.0	.	.	.	.	.	.	.	.	.	.	.
455	.	6.940	268.0	49.0	.	.	.	.	.	.	.	.	.	.	.
456	1	7.200	939.2	106.0	5.0	.	.	12.0	4.00	2.00	0.46	5.00	0.028	0.005	0.020
457	8	7.950	1430.0	128.0	.	.	.	.	.	.	.	.	.	.	.
458	8	8.350	1324.0	123.0	.	.	.	.	.	.	.	.	.	.	.
459	19	8.100	1284.0	119.0	.	.	.	.	.	.	.	.	.	.	.
460	4	7.330	400.0	57.0	.	.	.	.	.	.	.	.	.	.	.
461	1	7.200	460.0	58.3	60.0	.	.	8.0	3.00	0.60	0.60	2.50	0.068	0.012	0.010
462	1	7.410	844.4	104.0	5.0	.	.	17.0	1.00	0.99	0.41	6.05	0.008	0.003	0.006
463	1	7.240	347.0	58.0	15.0	.	.	7.0	1.00	1.10	0.67	7.10	0.026	0.003	0.060
464	7	7.150	1032.0	139.0	.	.	.	.	.	.	.	.	.	.	.
465	24	6.710	142.0	30.0	.	.	.	.	.	.	.	.	.	.	.
466	28	7.350	589.6	75.0	24.0	.	.	8.0	3.00	0.85	0.37	4.25	.	.	.
467	27	7.420	1184.0	136.0	.	.	.	.	.	.	.	.	.	.	.
468	17	7.560	968.0	111.0	.	.	.	.	.	.	.	.	.	.	.
469	1	6.867	162.0	34.0	5.0	.	.	4.0	1.00	1.00	1.00	4.75	0.018	0.002	0.012
470	27	7.050	85.2	29.4	49.0	.	7.7	2.8	0.66	0.60	0.12	4.77	0.170	0.012	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
471	LUCY LAKE	5019	8710	4JF23	KOWKASH	22	719.3	.	80	6
472	LYNE LAKE	4852	8721	2BA03	KILLRAINE	24	164.4	.	78	8
473	LYONS LAKE	4954	8659	4JD03		22	201.7	.	84	2
474	MACKENZIE LAKE	4844	8846	2AC02		25	502.0	4646.0	81	10
475	MACUTAGON LAKE	4906	8529	2BB06	ROBERTA	24	149.0	.	81	7
476	MADALAINE LAKE (NL)	4815	9033	5PA07	UNORGANIZED	25	.	.	80	4
477	MAKING GROUND LAKE	4933	8640	4JD15		22	69.0	.	84	2
478	MALLOY LAKE	5242	8702	4DB76	UNORGANIZED	22	.	.	80	6
479	MANITOUWADGE LAKE	4908	8548	2BB02	GERTRUDE	24	187.1	11400.8	80	5
480	MANITUSH LAKE	5155	8814	4FB19	UNORGANIZED	22	.	.	80	6
481	MANN LAKE	4931	8535	2BB09	UNORGANIZED	24	.	.	81	7
482	MARGO LAKE	4949	8621	2BB01	UNORGANIZED	22	.	.	80	6
483	MARGRET LAKE	4927	8726	2AD19	UNORGANIZED	23	262.5	.	81	6
484	MARION LAKE	4841	9115	5PA03		21	460.0	3250.0	82	10
485	MARMION LAKE	4853	9131	5PB18	(UNORGANIZED)	21	10523.8	.	78	7
486	MARTEN LAKE	4915	9013	4GB05	UNORGANIZED	25	.	.	81	6
487	MARTINET LAKE	4854	8627	2BA06	UNORGANIZED	24	159.4	2693.0	81	6
488	MCBEAN LAKE	4938	8635	4JD15	UNORGANIZED	22	241.2	.	81	7
489	MCCAULAY LAKE	4842	9159	5PB18		21	470.0	2970.0	82	10
490	MCCAUSLAND LAKE	4924	9038	5QA04	UNORGANIZED	25	.	.	81	6
491	MCGHIE LAKE	4848	8956	5PB01	GOLDING	25	.	.	81	7
492	MCINTYRE LAKE	5010	8919	4GC15	UNORGANIZED	22	.	.	80	6
493	MCKENZIE LAKE	5015	8905	2AD09		23	509.9	.	80	5
494	MCKERGOW LAKE	4908	8656	2BA01	UNORGANIZED	24	.	.	81	6
495	MCKNIGHT LAKE	4920	8724	4JD20	UNORGANIZED	23	367.7	.	81	6

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
471	20	8.25	2246.0	190	.	.	.	.	.	.	.	.	.	.	.
472	.	6.48	56.2	.	.	.	.	.	.	.	.	.	.	.	.
473	21	8.37	2740.0	263	9.0	.	6.4	40.1	7.46	0.70	0.40	2.47	0.006	0.002	.
474	15	7.02	218.6	37	48.0	.	.	3.0	2.00	0.77	0.30	3.30	.	.	.
475	21	7.38	1034.0	128	.	.	.	.	.	.	.	.	.	.	.
476	29	6.80	110.0	18	.	.	.	.	.	.	.	.	.	.	.
477	22	7.62	1352.0	144	62.5	.	14.0	21.7	4.76	0.60	0.66	5.42	0.027	0.006	.
478	23	7.22	454.0	62	.	.	.	.	.	.	.	.	.	.	.
479	28	7.28	1022.0	128	.	.	.	.	.	.	.	.	.	.	.
480	23	7.45	554.0	67	.	.	.	.	.	.	.	.	.	.	.
481	8	7.69	1188.0	111	.	.	.	.	.	.	.	.	.	.	.
482	22	8.18	2184.0	204	.	.	.	.	.	.	.	.	.	.	.
483	22	7.58	916.0	101	.	.	.	.	.	.	.	.	.	.	.
484	27	6.78	114.4	29	24.0	.	.	2.4	0.89	0.70	0.57	3.21	0.040	0.039	0.093
485	.	7.68	671.0	133	.	.	.	.	.	.	.	.	.	.	.
486	9	7.37	274.0	34	.	.	.	.	.	.	.	.	.	.	.
487	17	7.14	288.0	42	.	.	.	.	.	.	.	.	.	.	.
488	8	7.91	1166.0	103	.	.	.	.	.	.	.	.	.	.	.
489	27	7.00	182.6	35	27.0	.	.	4.1	0.76	0.59	0.95	3.38	0.050	0.004	0.049
490	9	7.35	482.0	47	.	.	.	.	.	.	.	.	.	.	.
491	23	6.89	198.0	44	.	.	.	.	.	.	.	.	.	.	.
492	23	7.32	430.0	50	.	.	.	.	.	.	.	.	.	.	.
493	1	7.65	505.2	61	4.0	.	.	12.0	1.20	1.50	0.72	.	.	.	.
494	4	7.02	292.0	56	.	.	.	.	.	.	.	.	.	.	.
495	22	7.91	980.0	120	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
496	MCLAURIN LAKE	5013	8905	2AD09		23	313.0	1448	80	5
497	MCLEISH LAKE	4848	8907	2AB06		25	192.0	2020	81	10
498	MCLEOD LAKE	4932	8633	2BA01	UNORGANIZED	22	323.0	.	80	6
499	MCQUESTEN LAKE	4950	8654	4JD03	MCQUESTEN	22	72.1	.	84	2
500	MELEHA LAKE	4850	9115	5PB18	HUTCHINSON	21	254.3	.	78	7
501	METIONGA LAKE	4943	9028	4GB04	UNORGANIZED	25	2029.5	.	80	7
502	MIDDLE ROLAND LAKE	4815	9151	5PA04	(UNORGANIZED)	21	64.0	.	78	7
503	MINN LAKE	4821	9153	5PA04		21	506.0	10524	81	9
504	MIOR LAKE (NL)	4838	9029	2AB04	UNORGANIZED	25	.	.	80	7
505	MISSING LAKE	4842	8921	2AB06	JACQUES	25	.	.	79	8
506	MOJIKIT LAKE	5040	8815	4GB01	UNORGANIZED	23	10691.2	.	81	6
507	MOOSE LAKE	4850	9135	5PB18	SCHWENGER	21	64.8	.	78	7
508	MOOSE LAKE	4843	8846	2AC02	MCTAVISH	25	8.7	.	81	3
509	MOOSELAND LAKE	4925	9000	2AD24		25	1410.0	33600	79	10
510	MOOSESKULL LAKE	4916	8530	4JD08		24	100.0	.	84	2
511	MORAINE LAKE	4900	8851	2AC14	UNORGANIZED	25	277.4	.	81	7
512	MOSHER LAKE	4859	9055	5PB24	UNORGANIZED	25	.	.	81	7
513	MOSS LAKE	4838	8812	2AC05		23	223.0	2020	80	3
514	MOULE LAKE	5033	8818	2AD13	UNORGANIZED	23	.	.	81	6
515	MOWE LAKE	4819	9045	5PA07		25	633.0	5276	80	10
516	MUG LAKE	4906	9005	2AB07	UNORGANIZED	25	261.6	.	81	6
517	MUSKEG LAKE	4900	9002	2AB07		25	3618.0	27485	80	10
518	MUSTELA LAKE	4931	8617	2BB01	UNORGANIZED	24	.	.	80	6
519	MYRT LAKE	4827	9044	5PA05		25	258.0	1057	80	10
520	NALLA LAKE	4840	8847	2AC02		25	47.0	344	81	10

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
496	1	.	196.2	32	5.0	.	.	4.0	1.00	0.72	0.42	2.60	.	.	.
497	15	7.06	231.2	58	73.0	.	.	6.0	2.00	2.20	0.59	4.40	.	.	.
498	21	8.29	2348.0	196	.	.	.	.	.	.	.	.	.	.	.
499	28	7.82	1778.0	181	31.0	.	10.2	29.2	5.02	0.96	0.34	2.28	0.010	0.009	.
500	.	6.77	197.0	31	.	.	.	.	.	.	.	.	.	.	.
501	24	6.86	252.0	39	.	.	.	.	.	.	.	.	.	.	.
502	.	6.69	108.0	17	.	.	.	.	.	.	.	.	.	.	.
503	30	6.69	86.8	27	29.0	.	.	2.0	1.00	0.91	0.56	3.80	0.045	0.010	0.110
504	28	7.80	730.0	96	.	.	.	.	.	.	.	.	.	.	.
505	10	6.40	272.0	38	.	.	.	.	.	.	.	.	.	.	.
506	25	7.45	512.0	47	.	.	.	.	.	.	.	.	.	.	.
507	.	7.64	1100.0	131	.	.	.	.	.	.	.	.	.	.	.
508	27	6.58	192.0	41	.	.	.	.	.	.	.	.	.	.	.
509	1	7.41	551.8	.	60.0	.	.	8.0	2.00	1.10	0.89	1.60	0.038	0.005	0.150
510	16	7.91	1968.0	197	27.5	.	8.0	29.3	6.48	0.50	0.36	4.30	0.011	0.006	.
511	21	7.59	1100.0	128	.	.	.	.	.	.	.	.	.	.	.
512	23	6.67	288.0	48	.	.	.	.	.	.	.	.	.	.	.
513	1	7.25	349.0	56	30.0	.	.	7.0	1.00	1.30	0.40	5.70	0.038	0.001	0.045
514	25	7.52	528.0	63	.	.	.	.	.	.	.	.	.	.	.
515	1	7.23	245.6	42	20.0	.	.	6.0	1.00	0.78	0.38	3.60	0.027	0.006	0.050
516	9	8.04	958.0	114	.	.	.	.	.	.	.	.	.	.	.
517	1	7.58	511.0	62	50.0	.	.	7.0	3.00	0.90	0.63	1.00	0.012	0.016	0.200
518	4	7.80	1348.0	109	.	.	.	.	.	.	.	.	.	.	.
519	1	6.84	109.4	28	29.0	.	.	2.0	2.00	0.74	0.48	3.00	0.023	0.019	0.150
520	15	6.93	214.4	41	22.0	.	.	4.0	1.00	0.85	0.28	5.20	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH	DAY
521	NAPPER LAKE	5058	8810	4GD14	UNORGANIZED	23	130.7	.	80	6	19
522	NELSON LAKE	4827	9032	5PA07		25	665.0	6941	81	5	28
523	NETTLETON LAKE	5013	8627	4JE01	NETTLETON	22	192.0	.	84	2	21
524	NEVISON LAKE	4851	9152	5PB21	UNORGANIZED	21	.	.	81	7	2
525	NIOBE LAKE	4843	9120	5PA03		21	396.0	4737	82	10	27
526	NL	4853	8617	2BB05	UNORGANIZED	24	.	.	81	6	17
527	NL	4841	9056	5PA03	(UNORGANIZED)	25	67.0	.	78	7	.
528	NL	4843	9014	2AB12	(UNORGANIZED)	25	66.8	.	78	8	.
529	NORTH BEDIVERE LAKE	4858	9054	5PB23	UNORGANIZED	25	.	.	81	7	23
530	NORTH LAKE	4807	9032	5PA08		25	1047.0	8556	80	10	6
531	NORTH LAMAUNE LAKE	5025	8806	2AD14	UNORGANIZED	23	.	.	80	7	23
532	NORTH TWIN LAKE	4851	9137	5PB18	(UNORGANIZED)	21	49.7	.	78	7	.
533	NORTHERN LIGHT LAKE	4816	9039	5PA07		25	6620.0	109470	80	9	6
534	NORTHLINE LAKE	4903	8718	2BA02	UNORGANIZED	24	.	.	81	6	4
535	NORWAY LAKE	4905	9116	5QA08		21	565.0	1339	82	10	28
536	NYDIA LAKE	4844	9104	5PA03	UNORGANIZED	21	550.0	.	81	7	2
537	NYM LAKE	4842	9126	5PA03		21	1840.0	4890	82	10	27
538	O'MEARA LAKE	4953	8614	4JD04	O'MEARA	22	243.6	.	84	2	21
539	O'SULLIVAN LAKE	5025	8702	4JF14		22	4292.5	.	84	2	21
540	OBOBKA LAKE	5005	8621	4JD01	RAYNAR	22	259.2	.	84	2	21
541	OBONGA LAKE	4957	8922	2AD09	UNORGANIZED	23	3581.0	.	80	8	14
542	OGAHALLA LAKE	5001	8606	4JD01	GOODWIN	22	241.5	.	84	2	21
543	OLIVER LAKE	4816	8935	2AB01		25	240.0	640	79	7	1
544	OMDAHL LAKE	5048	8929	4GB09	UNORGANIZED	23	.	.	80	7	22
545	OMEME LAKE	4830	9200	5PA02		21	126.0	4386	81	9	30

OBS	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
521	7.420	592.0	78.0	.	.	.	.	.	.	.	.	.	.	.
522	7.030	181.2	36.0	.	.	.	.	.	.	.	.	.	.	.
523	8.210	2104.0	207.0	20.0	.	8.5	30.9	5.80	0.75	0.82	1.44	0.000	0.027	.
524	5.480	20.0	21.0	.	.	.	.	.	.	.	.	.	.	.
525	6.820	162.4	46.0	46.0	.	.	3.9	1.20	2.60	0.81	3.44	0.010	0.035	0.110
526	7.920	990.0	76.0	.	.	.	.	.	.	.	.	.	.	.
527	5.800	31.8	23.0	.	.	.	.	.	.	.	.	.	.	.
528	7.400	271.0	.	.	.	.	.	.	.	.	.	.	.	.
529	6.500	110.0	25.0	.	.	.	.	.	.	.	.	.	.	.
530	7.660	763.6	93.0	11.0	.	.	14.0	4.00	1.10	0.47	4.20	0.007	0.005	0.042
531	7.100	332.0	91.0	.	.	.	.	.	.	.	.	.	.	.
532	8.630	1470.0	425.0	.	.	.	.	.	.	.	.	.	.	.
533	6.950	188.0	38.0	70.0	.	.	5.0	3.00	0.88	0.46	2.50	0.046	0.010	0.170
534	6.750	134.0	35.0	.	.	.	.	.	.	.	.	.	.	.
535	7.020	142.6	28.0	7.0	.	.	3.5	0.54	0.36	0.41	3.20	0.010	0.002	0.017
536	6.650	152.0	33.0	.	.	.	.	.	.	.	.	.	.	.
537	6.770	94.8	27.0	19.0	.	.	2.0	0.84	0.70	0.62	3.61	0.050	0.011	0.059
538	8.300	2540.0	245.0	3.0	.	3.3	34.0	8.20	0.95	0.70	3.26	0.003	0.002	.
539	8.190	1770.0	174.0	15.5	.	6.4	25.2	5.88	0.75	0.58	2.29	0.000	0.002	.
540	7.940	1402.0	141.0	74.0	.	14.6	22.4	4.58	0.65	0.28	1.81	0.006	0.008	.
541	7.390	332.0	50.0	.	.	.	.	.	.	.	.	.	.	.
542	8.020	1752.0	174.0	46.5	.	11.0	25.8	6.02	0.80	0.44	2.36	0.003	0.003	.
543	6.800	19999.8	64.0	5.0	.	.	6.0	3.00	1.30	0.50	6.50	.	.	.
544	6.950	326.0	46.0	.	.	.	.	.	.	.	.	.	.	.
545	6.790	125.0	28.0	28.0	.	.	3.0	1.00	0.92	0.64	2.90	0.040	0.019	0.181

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
546	ONAMAN LAKE	5000	8726	2AD16	UNORGANIZED	23	10846.2	.	81	6
547	ONE ISLAND LAKE	4838	8925	2AB06		25	360.0	3700	80	3
548	ONION LAKE	4840	8909	2AB10	UNORGANIZED	25	254.3	.	79	8
549	ORIANA LAKE	4835	9140	5PA02		21	410.0	5460	82	10
550	PAGWACHUAN LAKE	4943	8606	4JP06	UNORGANIZED	22	2716.9	.	80	6
551	PAKASHKAN LAKE	4922	9015	4GB05	UNORGANIZED	25	4740.8	.	81	6
552	PALMQUIST LAKE	4928	8630	2BB08	UNORGANIZED	24	.	.	81	7
553	PATRICIA LAKE (NL)	4917	8531	4JD08		24	15.8	.	84	2
554	PAUL 2 LAKE (NL)	4809	9005	2AA03	HARDWICK	25	.	.	80	8
555	PAVELLA LAKE	5021	8842	2AD11	UNORGANIZED	23	.	.	80	7
556	PAYS PLAT LAKE	4857	8730	2BA02		24	264.9	.	84	2
557	PEANUT LAKE	4948	8542	4JD06		22	21.4	.	84	2
558	PEAT LAKE	4916	9023	4GB05	UNORGANIZED	25	.	.	81	6
559	PEEWATAI LAKE	4833	9012	2AB11	LAMPORT	25	114.9	.	81	7
560	PEKAGONING LAKE	4909	9211	5PB10		21	1590.0	153050	82	10
561	PERCH LAKE	4814	8908	2AA05		25	80.0	1101	80	3
562	PESHEAU LAKE	4915	8925	2AD04	UNORGANIZED	25	.	.	79	8
563	PETE LAKE	4822	8953	2AB03	MARKS	25	17.0	.	80	7
564	PICARSON LAKE	4929	8622	2BB08	UNORGANIZED	24	.	.	81	7
565	PICKEREL LAKE	4837	9119	5PA03		21	6510.0	101450	82	10
566	PICKETT LAKE	5047	8842	4GB12	UNORGANIZED	23	224.4	.	81	6
567	PICKLE LAKE	4856	8535	2BC01	MCGILL	24	179.6	.	85	2
568	PINCERS LAKE	4935	8529	4JD07	UNORGANIZED	22	.	.	81	7
569	PODY LAKE	4932	8506	4JC11	FRANCES	24	.	.	81	7
570	POND LAKE	4818	9154	5PA04		21	86.0	574	81	11

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
546	22	7.570	572.0	65.0	.	.	.	.	.	.	.	.	.	.	.
547	1	7.040	214.4	43.0	40.0	.	.	5.0	1.00	0.91	0.54	4.90	0.011	0.007	0.100
548	8	5.900	208.0	51.0	.	.	.	.	.	.	.	.	.	.	.
549	27	6.570	103.8	28.0	24.0	.	.	2.6	0.83	0.59	0.56	3.90	0.050	0.007	0.061
550	18	8.070	1894.0	169.0	.	.	.	.	.	.	.	.	.	.	.
551	9	7.180	500.0	62.0	.	.	.	.	.	.	.	.	.	.	.
552	8	8.090	2010.0	194.0	.	.	.	.	.	.	.	.	.	.	.
553	16	8.060	2712.0	263.0	23.0	.	6.9	39.6	8.26	0.65	0.52	3.72	0.014	0.016	.
554	1	.	774.0	98.0	.	.	.	.	.	.	.	.	.	.	.
555	23	6.950	246.0	35.0	.	.	.	.	.	.	.	.	.	.	.
556	22	7.115	173.8	37.8	51.0	.	8.9	4.8	1.08	0.56	0.20	5.22	0.160	0.004	.
557	21	7.870	1500.0	163.0	71.0	.	14.1	24.0	5.42	2.50	0.24	2.60	0.012	0.006	.
558	9	7.100	494.0	69.0	.	.	.	.	.	.	.	.	.	.	.
559	2	6.930	956.0	353.0	.	.	.	.	.	.	.	.	.	.	.
560	28	6.970	127.8	25.0	16.0	.	.	2.5	0.59	0.65	0.42	2.64	0.010	0.006	0.036
561	1	7.050	438.4	96.0	15.0	.	.	11.0	3.00	2.60	1.00	.	0.180	0.007	0.320
562	17	7.600	616.0	78.0	.	.	.	.	.	.	.	.	.	.	.
563	9	7.500	320.0	48.0	.	.	.	.	.	.	.	.	.	.	.
564	8	7.910	1376.0	174.0	.	.	.	.	.	.	.	.	.	.	.
565	27	6.850	130.6	31.0	22.0	.	.	2.8	0.97	0.77	0.59	3.70	0.010	0.005	0.037
566	25	6.880	384.0	46.0	.	.	.	.	.	.	.	.	.	.	.
567	18	7.443	1179.2	126.0	.	61.5	11.5	19.9	4.90	0.56	0.26	3.02	0.011	0.010	.
568	8	7.460	738.0	89.0	.	.	.	.	.	.	.	.	.	.	.
569	8	7.690	1054.0	116.0	.	.	.	.	.	.	.	.	.	.	.
570	3	6.440	93.8	26.0	22.0	.	.	2.0	1.00	0.82	0.25	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
571	POPPY LAKE	4917	8522	4JC10	UNORGANIZED	24	140.1	.	80	6
572	POSHKOKAGAN LAKE	4916	8918	2AD04	UNORGANIZED	25	1043.3	.	80	3
573	POTHOLE LAKE (NL)	4813	8953	2AA03	LYBSTER	25	1.1	.	80	7
574	POVERTY LAKE	5017	8616	4JE01		22	251.5	.	84	2
575	PRAIRIE LAKE	4902	8643	2BA01	UNORGANIZED	24	169.1	.	81	6
576	PRELATE LAKE	4811	9024	5PA08	UNORGANIZED	25	149.9	.	79	7
577	PREMIER LAKE	4900	9118	5PB18	(UNORGANIZED)	21	54.7	.	78	7
578	PRINGLE LAKE	4903	8846	2AC14	UNORGANIZED	23	182.3	.	79	8
579	PYRAMID LAKE	4908	9058	5PB18	PYRAMID	21	.	.	81	7
580	QUETICO LAKE	4834	9155	5PA02	(UNORGANIZED)	21	4264.7	.	78	7
581	RABBITSKIN LAKE	4912	8549	2BB07	GEMMELL	24	.	.	81	7
582	RADIO LAKE	4930	9016	4GB05	UNORGANIZED	25	344.1	.	80	7
583	RAMSAY LAKE	4927	8547	2BB09	UNORGANIZED	24	.	.	80	6
584	RAWN LAKE	4834	9115	5PA03		21	367.0	6470.0	82	10
585	RED PAINT LAKE	4903	9124	5PB18		21	550.0	9660.0	82	10
586	REDSAND LAKE	4948	9004	2AD09	UNORGANIZED	25	386.7	.	80	7
587	RELIEF LAKE	5015	8616	4JE01		22	223.6	.	84	2
588	RETA LAKE	4815	9029	5PA07	UNORGANIZED	25	119.2	.	79	8
589	RHEA LAKE (LOWER ROSS)	4854	8720	2BA03		24	164.4	.	84	2
590	RINKER LAKE	4911	8926	2AD04	UNORGANIZED	25	134.8	.	79	8
591	ROBINSON LAKE	4811	9139	5PA04		21	427.0	16040.0	82	10
592	ROLAND LAKE	4816	9151	5PA04	(UNORGANIZED)	21	230.6	.	78	7
593	ROSS LAKE	4822	9056	5PA05		25	318.0	4326.0	81	11
594	ROUNDTABLE LAKE	4813	9010	2AA03	HARDWICK	25	106.7	14854.3	79	8
595	ROUS LAKE	4841	8601	2BB02	LECOEUR	24	153.9	5960.0	81	6

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
571	7	7.170	1358.0	139.0	.	.	.	.	.	.	.	.	.	.	.
572	25	7.300	536.0	.	.	.	.	.	.	.	.	.	.	.	.
573	21	6.550	138.0	18.0	.	.	.	.	.	.	.	.	.	.	.
574	21	7.880	1476.0	153.0	88.0	.	16.2	24.3	5.02	0.65	0.24	1.98	0.012	0.014	.
575	11	8.050	1742.0	179.0	.	.	.	.	.	.	.	.	.	.	.
576	31	6.700	266.0	40.0	.	.	.	.	.	.	.	.	.	.	.
577	.	6.860	279.0	41.0	.	.	.	.	.	.	.	.	.	.	.
578	27	6.900	316.0	49.0	.	.	.	.	.	.	.	.	.	.	.
579	23	6.520	108.0	27.0	.	.	.	.	.	.	.	.	.	.	.
580	.	6.850	124.0	23.0	.	.	.	.	.	.	.	.	.	.	.
581	21	7.170	1140.0	136.0	.	.	.	.	.	.	.	.	.	.	.
582	24	6.750	164.0	34.0	.	.	.	.	.	.	.	.	.	.	.
583	6	7.550	1616.0	120.0	.	.	.	.	.	.	.	.	.	.	.
584	27	6.450	89.8	27.0	64.0	.	.	2.3	1.10	0.70	0.47	3.72	0.080	0.016	0.220
585	28	7.090	303.2	47.0	29.0	.	.	6.7	1.00	0.55	0.41	3.32	0.020	0.005	0.044
586	24	6.300	52.0	16.0	.	.	.	.	.	.	.	.	.	.	.
587	28	7.560	1878.0	185.0	35.5	.	10.5	29.5	5.82	0.80	0.38	2.28	0.020	0.025	.
588	1	6.650	94.0	32.0	.	.	.	.	.	.	.	.	.	.	.
589	22	6.546	75.8	29.1	49.5	.	7.8	3.3	0.60	0.66	0.16	4.90	0.140	0.011	.
590	17	7.050	384.0	47.0	.	.	.	.	.	.	.	.	.	.	.
591	27	6.710	80.0	22.0	5.0	.	.	1.6	0.63	0.63	0.41	4.36	0.020	0.004	0.040
592	.	6.530	108.0	17.0	.	.	.	.	.	.	.	.	.	.	.
593	2	6.730	146.8	33.0	41.0	.	.	4.0	1.00	0.78	0.15	4.60	.	.	.
594	2	6.600	482.0	76.0	.	.	.	.	.	.	.	.	.	.	.
595	17	7.350	376.0	71.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH	DAY
596	RUFFLE LAKE	4904	8643	2BA01	UNORGANIZED	24	481.9	.	80	5	29
597	RUTTER LAKE	4904	9212	5PB16		21	403.0	1524.0	81	10	6
598	SAMPLE 7 LAKE (NL)	4915	9000	2AB07	UNORGANIZED	25	.	.	80	8	26
599	SAMPLE 8 LAKE (NL)	4915	9000	2AB07	UNORGANIZED	25	.	.	80	8	26
600	SANDISON LAKE	5007	8942	2AD09	UNORGANIZED	23	.	.	81	7	14
601	SANDSPIT LAKE	4911	8632	2BA06	UNORGANIZED	24	181.5	1054.2	81	6	11
602	SANDSTONE LAKE	4814	9014	2AA03	UNORGANIZED	25	935.2	9381.4	79	8	2
603	SANTOY LAKE	4852	8653	2BA01	TUURI	24	994.7	.	81	6	17
604	SASSAFRAS LAKE	4951	9031	4GB03	UNORGANIZED	25	313.8	.	81	7	14
605	SAUERBREI LAKE	4916	8929	2AD04		25	572.0	2315.0	81	10	15
606	SAUERBREI LAKE (NL)	4916	8930	2AD04	UNORGANIZED	25	.	.	79	8	16
607	SAUNDERS LAKE (NL)	4842	8455	4JA04	STRICKLAND	26	43.7	.	84	2	16
608	SAWAY LAKE	4913	9015	4GB05	UNORGANIZED	25	.	.	81	6	9
609	SCARP LAKE	4853	8838	2AC09	GLEN	25	.	.	81	3	27
610	SCRAG LAKE	5048	8935	4GB09	UNORGANIZED	23	.	.	81	6	25
611	SEAGULL LAKE	4901	8854	2AC08	UNORGANIZED	25	.	.	80	7	25
612	SEBERT LAKE	5157	8605	4GF17	UNORGANIZED	22	.	.	80	6	23
613	SEDGWICK LAKE	4907	9202	5PB10		21	704.0	4312.0	82	10	28
614	SEELEY LAKE	4849	8624	2BA07	UNORGANIZED	24	.	.	81	6	17
615	SEYMOUR LAKE	5024	8824	2AD14	UNORGANIZED	23	.	.	80	7	23
616	SHACO LAKE	4815	9032	5PA07		25	115.0	799.0	81	7	9
617	SHAFTON LAKE	4840	9014	2AB04	HAGEY	25	116.0	.	80	4	28
618	SHALE LAKE	4854	8843	2AC14	UNORGANIZED	25	.	.	80	7	15
619	SHELL LAKE	4918	9016	4GB05	UNORGANIZED	25	.	.	80	8	26
620	SHERLOCK LAKE	5146	8656	4FB10	UNORGANIZED	22	.	.	80	6	23

OBS	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
596	7.800	906.0	105.0	.	.	.	.	.	.	.	.	.	.	.
597	6.770	141.0	28.0	16.0	.	.	4.0	1.00	1.00	0.46	2.90	.	.	.
598	7.600	926.0	100.0	.	.	.	.	.	.	.	.	.	.	.
599	7.350	580.0	64.0	.	.	.	.	.	.	.	.	.	.	.
600	6.530	122.0	23.0	.	.	.	.	.	.	.	.	.	.	.
601	7.780	910.0	116.0	.	.	.	.	.	.	.	.	.	.	.
602	7.400	542.0	75.0	.	.	.	.	.	.	.	.	.	.	.
603	7.300	856.0	90.0	.	.	.	.	.	.	.	.	.	.	.
604	6.780	218.0	37.0	.	.	.	.	.	.	.	.	.	.	.
605	6.860	197.4	37.0	32.0	.	.	4.0	1.00	0.72	0.32	3.90	.	.	.
606	5.900	52.0	47.0	.	.	.	.	.	.	.	.	.	.	.
607	7.233	19999.8	56.0	29.5	.	8.8	7.0	1.96	0.60	0.20	4.53	0.052	0.006	.
608	7.320	436.0	43.0	.	.	.	.	.	.	.	.	.	.	.
609	7.740	1600.0	165.0	.	.	.	.	.	.	.	.	.	.	.
610	7.030	374.0	47.0	.	.	.	.	.	.	.	.	.	.	.
611	7.400	648.0	88.0	.	.	.	.	.	.	.	.	.	.	.
612	6.920	294.0	42.0	.	.	.	.	.	.	.	.	.	.	.
613	6.780	90.6	19.0	12.0	.	.	1.6	0.40	0.69	0.33	2.24	0.020	0.002	0.028
614	6.150	24.0	27.0	.	.	.	.	.	.	.	.	.	.	.
615	7.600	990.0	116.0	.	.	.	.	.	.	.	.	.	.	.
616	7.060	160.8	34.0	48.0	.	.	3.0	1.00	0.92	0.71	3.50	.	.	.
617	7.500	270.0	40.0	.	.	.	.	.	.	.	.	.	.	.
618	8.700	3128.0	360.0	.	.	.	.	.	.	.	.	.	.	.
619	7.250	318.0	37.0	.	.	.	.	.	.	.	.	.	.	.
620	7.100	276.0	36.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH	DAY
621	SHILLABEER LAKE	4906	8844	2AC09		23	813.0	3973.0	80	5	22
622	SINCLAIR LAKE	4908	8726	2BA02	UNORGANIZED	24	.	.	81	6	4
623	SITCH LAKE (NL)	4839	9038	2AB12	AMES	25	15.1	.	80	7	30
624	SKAROTT LAKE	5119	8755	4GD15	UNORGANIZED	22	.	.	80	6	19
625	SLIMJIM LAKE	4939	8545	4JD07		22	237.5	.	84	2	21
626	SMILEY LAKE	4858	8917	2AC10		25	401.0	18252.0	81	10	15
627	SMUDGE LAKE	4839	9141	5PA02	(UNORGANIZED)	21	44.6	.	78	7	.
628	SNOW LAKE	4850	9133	5PB18	SCHWENGER	21	36.4	.	78	7	.
629	SNOWSHOE LAKE	5004	8854	2AD09	UNORGANIZED	23	222.1	.	81	6	25
630	SOHO LAKE	4839	9145	5PA02	(UNORGANIZED)	21	270.9	.	78	7	.
631	SOUTER LAKE	5054	8905	4GB10	UNORGANIZED	23	.	.	80	7	22
632	SOX LAKE	4853	8726	2BA03	KILLRAINE	24	84.2	.	84	2	22
633	SPENCE LAKE	5134	8814	4GC02	UNORGANIZED	22	.	.	80	6	23
634	SQUAWK LAKE (NL)	4920	8743	2AE05	UNORGANIZED	23	.	.	81	6	22
635	SQUEERS LAKE	4831	9033	5PA05		25	460.0	1390.0	80	10	1
636	STARK LAKE	5153	8742	4FB16	UNORGANIZED	22	393.1	.	80	6	23
637	STARNES LAKE	4905	8915	2AC10		25	540.0	3020.0	80	7	1
638	STINGRAY LAKE	4903	8709	2BA05	UNORGANIZED	24	92.3	.	81	6	4
639	STREATFIELD LAKE	5209	8555	4FB05	UNORGANIZED	22	.	.	80	6	23
640	STURGE LAKE	4907	8851	2AC08		23	940.0	29024.0	80	5	22
641	STURGEON LAKE	4829	9138	5PA03		21	4670.0	.	82	10	27
642	SUN LAKE	4925	8635	2BA06	UNORGANIZED	22	171.1	6397.9	81	7	8
643	SUNBOW LAKE	4813	9031	5PA07	UNORGANIZED	25	544.3	.	79	8	1
644	SUNGLOW LAKE	5036	8812	2AD13	UNORGANIZED	23	.	.	80	7	23
645	SUNSET LAKE	4812	8956	2AA03	LISMORE	25	65.5	348.1	80	7	24

OBS	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
621	7.720	863.2	105.0	60.0	.	.	12.0	5.00	1.60	0.72	.	.	.	.
622	6.580	122.0	34.0	.	.	.	.	.	.	.	.	.	.	.
623	6.700	70.0	32.0	.	.	.	.	.	.	.	.	.	.	.
624	7.480	858.0	116.0	.	.	.	.	.	.	.	.	.	.	.
625	7.800	1654.0	167.0	60.5	.	10.4	24.9	5.32	0.60	0.48	3.56	0.030	0.002	.
626	6.930	222.4	46.0	114.0	.	.	5.0	1.00	1.40	0.79	4.10	.	.	.
627	6.450	78.8	19.0	.	.	.	.	.	.	.	.	.	.	.
628	7.340	488.0	64.0	.	.	.	.	.	.	.	.	.	.	.
629	7.000	478.0	48.0	.	.	.	.	.	.	.	.	.	.	.
630	6.750	99.4	20.0	.	.	.	.	.	.	.	.	.	.	.
631	7.300	356.0	47.0	.	.	.	.	.	.	.	.	.	.	.
632	6.407	54.6	28.1	53.5	.	9.1	3.0	0.62	0.66	0.12	5.53	0.270	0.012	.
633	7.500	738.0	68.0	.	.	.	.	.	.	.	.	.	.	.
634	6.980	434.0	60.0	.	.	.	.	.	.	.	.	.	.	.
635	7.270	241.6	41.0	10.0	.	.	5.0	1.00	0.71	0.43	4.30	0.013	0.005	0.050
636	7.350	574.0	67.0	.	.	.	.	.	.	.	.	.	.	.
637	7.300	19999.8	71.0	20.0	.	.	8.0	2.00	0.90	0.80	2.50	.	.	.
638	7.200	278.0	49.0	.	.	.	.	.	.	.	.	.	.	.
639	7.110	356.0	43.0	.	.	.	.	.	.	.	.	.	.	.
640	7.800	765.6	200.0	63.0	.	.	28.0	4.00	3.20	0.51	5.60	.	.	.
641	7.020	209.2	40.0	55.0	.	.	4.6	1.30	0.79	0.55	3.85	0.090	0.010	0.170
642	7.600	1110.0	111.0	.	.	.	.	.	.	.	.	.	.	.
643	6.750	204.0	36.0	.	.	.	.	.	.	.	.	.	.	.
644	7.200	600.0	80.0	.	.	.	.	.	.	.	.	.	.	.
645	7.500	394.0	60.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
646	SUPERB LAKE	5030	8659	4JF03		22	625.9	.	84	2
647	SURPRISE LAKE	4839	9201	5PB19	UNORGANIZED	21	.	.	81	7
648	SURPRISE LAKE	4837	8920	2AB10	GORHAM	25	72.3	.	78	8
649	SWALLOW LAKE	4827	9019	2AB11	UNORGANIZED	25	361.3	.	81	7
650	SWITZER LAKE	4949	8612	4JD04		22	141.9	.	84	2
651	TEESQUARE LAKE	4917	8720	4JD20		22	77.8	.	84	2
652	THERESA LAKE (NL)	4850	8544	2BB04	UNORGANIZED	24	251.8	.	81	6
653	THIS MAN LAKE	4810	9112	5PA06		21	320.0	3470.0	80	2
654	THOMPSON LAKE	4823	9216	5PA01	UNORGANIZED	21	954.8	.	81	7
655	TILIA LAKE	4959	8631	4JB14	RAYNAR	22	96.2	.	80	6
656	TILLY LAKE	4838	9057	5PA05		25	497.0	4709.0	82	10
657	TIMMUS LAKE	4840	8905	2AB10	UNORGANIZED	25	17.6	.	80	3
658	TITMARSH LAKE	4822	9032	5PA07		25	981.0	5777.0	80	10
659	TOMMYHOW LAKE	4949	8946	2AD07	UNORGANIZED	25	.	.	81	6
660	TORONTO LAKE	5021	8748	2AD14	UNORGANIZED	23	983.6	.	80	7
661	TREPTOW LAKE	4952	8712	4JD16	UNORGANIZED	22	1061.7	.	80	6
662	TREWARTHA LAKE	4906	9048	5PB05	COLLIVER	25	.	.	81	7
663	TROUTFLY LAKE	5142	8853	4GC06	UNORGANIZED	22	1307.5	.	80	6
664	TRUAX LAKE	5002	8626	4JD01	RAYNAR	22	87.8	.	84	2
665	TURTLE LAKE	4857	9157	5PB17	(UNORGANIZED)	21	1154.3	.	78	7
666	TWINHOUSE LAKE	4822	9052	5PA05		25	101.0	596.0	80	10
667	TWINREDBLOX LAKE	4855	8841	2AC14	GLEN	25	.	.	79	8
668	TYROL LAKE	4948	8755	2AD18	HEADER	23	.	.	81	6
669	UPPER FLANDERS LAKE	4917	8522	4JC10	UNORGANIZED	24	.	.	81	7
670	UPPER KAOGOMOK LAKE	4902	9010	2AB07	UNORGANIZED	25	.	.	81	6

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
646	21	8.120	1894.0	186.0	35.0	.	9.7	27.3	6.14	0.75	0.50	2.27	0.008	0.005	.
647	2	6.000	44.0	24.0	.	.	.	.	.	.	.	.	.	.	.
648	.	6.680	99.6	.	.	.	.	.	.	.	.	.	.	.	.
649	23	7.040	252.0	44.0	.	.	.	.	.	.	.	.	.	.	.
650	21	8.350	3246.0	313.0	11.5	.	3.9	46.1	9.56	2.25	0.60	3.23	0.003	0.002	.
651	22	7.559	523.2	68.1	55.0	.	12.0	9.7	2.24	0.50	0.40	4.09	0.048	0.000	.
652	17	7.730	868.0	80.0	.	.	.	.	.	.	.	.	.	.	.
653	1	7.409	704.6	91.0	5.0	.	.	16.0	1.00	1.00	1.00	5.65	0.013	0.002	0.022
654	2	6.880	204.0	34.0	.	.	.	.	.	.	.	.	.	.	.
655	26	8.080	1750.0	149.0	.	.	.	.	.	.	.	.	.	.	.
656	27	6.580	76.8	26.0	29.0	.	.	1.9	0.83	0.90	0.46	3.03	0.070	0.017	0.085
657	23	6.600	88.0	65.0	.	.	.	.	.	.	.	.	.	.	.
658	6	7.150	207.8	34.0	23.0	.	.	4.0	2.00	0.81	0.38	1.90	0.048	0.004	0.052
659	30	6.270	144.0	32.0	.	.	.	.	.	.	.	.	.	.	.
660	23	7.300	754.0	97.0	.	.	.	.	.	.	.	.	.	.	.
661	19	7.800	1128.0	107.0	.	.	.	.	.	.	.	.	.	.	.
662	23	6.870	246.0	38.0	.	.	.	.	.	.	.	.	.	.	.
663	23	8.250	2018.0	159.0	.	.	.	.	.	.	.	.	.	.	.
664	21	7.900	1494.0	148.0	64.5	.	14.1	23.1	4.86	0.65	0.38	2.09	0.017	0.015	.
665	.	6.640	97.2	23.0	.	.	.	.	.	.	.	.	.	.	.
666	7	6.670	74.8	23.0	22.0	.	.	2.0	1.00	0.66	0.30	3.30	0.026	0.015	0.150
667	22	8.350	2290.0	265.0	.	.	.	.	.	.	.	.	.	.	.
668	22	7.630	888.0	100.0	.	.	.	.	.	.	.	.	.	.	.
669	21	7.980	1660.0	181.0	.	.	.	.	.	.	.	.	.	.	.
670	9	7.250	460.0	57.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
671	UPPER PASS LAKE	4834	8844	2AC03	MCTAVISH	25	16.2	.	81	3
672	UPPER ROSLYN LAKE	4915	8729	2AD19	UNORGANIZED	23	1034.1	.	81	8
673	UPPER ROSS LAKE	4855	8720	2A		25	.	.	84	2
674	UPPER SABRINA LAKE	4842	9016	2AB12		25	132.0	585.0	80	5
675	UPPER SCOTCH LAKE	4910	9110	5QA08		21	1310.0	13230.0	82	10
676	VAN NESS LAKE	5024	8943	4GB07	UNORGANIZED	23	.	.	80	7
677	VEIN LAKE	4908	8619	2BA06	UNORGANIZED	24	.	.	80	5
678	VENICE LAKE	4855	8842	2AC14	UNORGANIZED	25	.	.	79	8
679	WABABIMIGA LAKE	5020	8623	4JE01	UNORGANIZED	22	.	.	80	6
680	WABIKOBA LAKE	4847	8545	2BB04	UNORGANIZED	24	278.6	.	80	7
681	WABIMEIG LAKE	5128	8536	4GF06	UNORGANIZED	22	.	.	80	6
682	WABOOSEKON LAKE	4923	8612	2BB01	UNORGANIZED	24	.	.	81	6
683	WALKINSHAW LAKE	4838	8904	2AC02		25	41.0	534.0	80	7
684	WALKOVER LAKE	5010	8853	2AD09		23	153.2	.	80	5
685	WARNER LAKE	4843	9206	5PB19	(UNORGANIZED)	21	188.3	.	78	8
686	WARNICA LAKE	4839	8917	2AB10	JACQUES	25	.	.	80	7
687	WARTMAN LAKE	4840	8924	2AB06	FOWLER	25	48.1	532.2	80	8
688	WASHI LAKE	5124	8702	4GD03	UNORGANIZED	22	2658.7	.	80	6
689	WAWANG LAKE	4925	9034	4GB04		25	2005.0	.	79	10
690	WAWEIG LAKE	5008	8905	2AD09		23	1211.8	.	80	5
691	WEAVER LAKE	4934	9010	2AD23	UNORGANIZED	25	1370.3	.	80	7
692	WEIKWABINONAW LAKE	4819	9023	5PA07		25	1360.0	26880.0	80	10
693	WELLWOOD LAKE	4911	8634	2BA06	UNORGANIZED	24	106.5	732.6	81	6
694	WEST JINX LAKE (NL)	4814	8953	2AB03	LYBSTER	25	.	.	80	7
695	WEST PENNOCK LAKE (NL)	4821	8956	2AB11	ALDINA	25	.	.	80	8

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
671	23	7.51	1598.0	178.0	.	.	.	.	.	.	.	.	.	.	.
672	18	7.70	556.0	89.0	.	.	.	.	.	.	.	.	.	.	.
673	27	8.55	93.6	30.8	55	.	8.1	2.9	0.68	0.66	0.12	4.57	0.180	0.016	.
674	20	7.22	210.2	38.0	30	.	.	5.0	1.00	0.96	0.49	3.61	.	.	.
675	28	6.79	113.2	26.0	33	.	.	3.0	0.67	0.61	0.38	3.43	0.020	0.009	0.073
676	22	6.05	86.0	19.0	.	.	.	.	.	.	.	.	.	.	.
677	29	7.85	1180.0	145.0	.	.	.	.	.	.	.	.	.	.	.
678	22	8.05	2268.0	244.0	.	.	.	.	.	.	.	.	.	.	.
679	19	7.95	1562.0	125.0	.	.	.	.	.	.	.	.	.	.	.
680	10	8.28	1252.0	81.0	.	.	.	.	.	.	.	.	.	.	.
681	23	7.01	348.0	49.0	.	.	.	.	.	.	.	.	.	.	.
682	11	7.55	1448.0	142.0	.	.	.	.	.	.	.	.	.	.	.
683	15	7.31	182.2	72.0	40	.	.	6.0	1.00	5.30	0.50	.	.	.	.
684	1	.	508.2	61.0	3	.	.	4.0	2.00	1.10	0.42	3.20	.	.	.
685	.	6.64	179.0	.	.	.	.	.	.	.	.	.	.	.	.
686	8	6.90	156.0	45.0	.	.	.	.	.	.	.	.	.	.	.
687	5	6.85	122.0	28.0	.	.	.	.	.	.	.	.	.	.	.
688	19	7.50	836.0	112.0	.	.	.	.	.	.	.	.	.	.	.
689	1	6.60	339.0	41.0	15	.	.	1.6	1.00	1.20	0.54	2.40	0.020	0.020	0.110
690	1	7.75	458.6	58.0	18	.	.	3.0	3.00	1.80	0.79	.	.	.	.
691	24	6.60	238.0	42.0	.	.	.	.	.	.	.	.	.	.	.
692	1	7.10	188.6	37.0	53	.	.	5.0	1.00	0.88	0.30	2.90	0.039	0.012	0.170
693	11	7.21	238.0	44.0	.	.	.	.	.	.	.	.	.	.	.
694	24	8.00	2082.0	254.0	.	.	.	.	.	.	.	.	.	.	.
695	4	7.30	272.0	25.0	.	.	.	.	.	.	.	.	.	.	.

OBS	LAKE	LAT	LONG	WSHED	TWP	DIST	LKAREA	WSHEDA	YR	MONTH
696	WHISTLE LAKE	4918	8928	2AD05		25	311.0	1756	80	5
697	WHITE OTTER LAKE	4907	9152	5PB10		21	9080.0	66790	82	10
698	WHITE OTTER LAKE	4928	8533	2BB09	UNORGANIZED	24	407.9	.	80	6
699	WHITEFISH LAKE	4813	9000	2AA03		25	2978.0	8516	81	5
700	WHITELILY LAKE	4840	8905	2AB10	UNORGANIZED	25	42.1	.	80	7
701	WHITESAND LAKE	5023	8850	2AD11	UNORGANIZED	23	.	.	81	6
702	WICKSTEED LAKE	4819	9150	5PA04	(UNORGANIZED)	21	603.5	.	78	7
703	WIGGINS LAKE	4849	8843	2AC07	DORION	25	21.1	.	80	7
704	WILDGOOSE LAKE	4944	8711	2AD19	LINDSLEY	22	1739.9	.	78	8
705	WILLIAMSON LAKE	4853	9152	5PB21		21	506.0	2230	81	9
706	WINDIGOOSTIGWAN LAKE	4843	9057	5PA03		25	1120.0	14540	82	10
707	WINDY LAKE	4911	9021	5PB05	HOGARTH	25	.	.	81	7
708	WOLF LAKE (NL)	4852	8840	2AC14	GLEN	25	224.0	.	79	8
709	WOLFPUP LAKE	4858	8840	2AC14	MCMASTER	25	.	.	81	6
710	YEA LAKE	4856	8853	2AC14	UNORGANIZED	25	.	.	80	7
711	YUCCA LAKE	4924	8638	2BA06	UNORGANIZED	22	177.6	.	81	7

OBS	DAY	PH	TIA	COND	COLAP	COLTR	DOC	CA	MG	NA	K	SO4	AL	MN	FE
696	20	7.44	301.8	46	50	.	.	6.0	1.00	0.72	0.49	3.30	.	.	.
697	28	7.13	173.8	29	6	.	.	3.1	0.66	0.95	0.49	2.73	0.010	0.002	0.021
698	6	7.78	1524.0	119	.	.	.	.	.	.	.	.	.	.	.
699	11	7.84	785.6	97	19	.	.	12.0	3.00	1.80	0.32	4.30	0.041	0.010	0.290
700	25	6.90	250.0	77	.	.	.	.	.	.	.	.	.	.	.
701	25	7.93	1568.0	154	.	.	.	.	.	.	.	.	.	.	.
702	.	6.58	102.0	19	.	.	.	.	.	.	.	.	.	.	.
703	15	7.40	414.0	53	.	.	.	.	.	.	.	.	.	.	.
704	.	7.60	1200.0	.	.	.	.	.	.	.	.	.	.	.	.
705	29	6.57	77.0	22	32	.	.	2.0	1.00	0.86	0.47	3.00	0.075	0.021	0.230
706	27	6.76	128.8	34	34	.	.	3.0	0.96	1.40	0.62	3.43	0.050	0.007	0.088
707	14	6.83	268.0	30	.	.	.	.	.	.	.	.	.	.	.
708	22	7.85	1818.0	201	.	.	.	.	.	.	.	.	.	.	.
709	30	8.04	2332.0	247	.	.	.	.	.	.	.	.	.	.	.
710	25	8.10	2230.0	265	.	.	.	.	.	.	.	.	.	.	.
711	8	7.88	1172.0	133	.	.	.	.	.	.	.	.	.	.	.

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